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The Erasmus Wilson Lectures

ON

PERITONITIS, A BACTERIOLOGICAL STUDY.

Delivered before the Royal College of Surgeons of England on Feb. 20th, 22nd, and 24th, 1905,

BY LEONARD S. DUDGEON, M.R.C.P. LOND., M.R.C.S. ENG.,

SUPERINTENDENT OF THE CLINICAL LABORATORY AND DEMONSTRATOR OF CLINICAL PATHOLOGY AT ST. THOMAS'S HOSPITAL; GILLSON SCHOLAR IN PATHOLOGY OF THE SOCIETY OF APOTHECARIES; ERASMUS WILSON LECTURER, ROYAL COLLEGE OF SURGEONS OF ENGLAND;

AND

PERCY W. G. SARGENT, M.A., M.B., B.C. CANTAB., F.R.C.S. ENG.,

RESIDENT ASSISTANT SURGEON AT ST. THOMAS'S HOSPITAL; ERASMUS WILSON LECTURER, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

LECTURE I.

Delivered on Feb. 20th.

MR. PRESIDENT AND GENTLEMEN,—Our first duty is to thank you for the honour which you have done us in allowing us to bring forward in these lectures the results of our research into the bacteriology of peritonitis. It is impossible, in the time at our disposal, to give more than an outline of the work which we have done and the conclusions at which we have arrived. We have attempted to place the bacteriology of acute peritonitis upon a sound basis, and to deduce from the knowledge thus gained some facts which may serve to guide the surgeon in the treatment of the various diseases which are grouped under the general names of septic or suppurative peritonitis. We hope that the time will come when it will be possible to treat these diseases with some regard to their bacteriology and we hope that our results may be of some assistance in bringing about that desirable end. We have made systematic examinations of the peritoneum in 270 cases operated upon at St. Thomas's Hospital during a period extending over about 16 months. We offer our best thanks to the staff of St. Thomas's Hospital for the interest which they have taken in the work and for the readiness and unfailing courtesy with which they have placed at our disposal the material obtained from their cases.

TECHNIQUE.

In the large majority of cases the films and cultures were taken by one of us; almost all the remainder were taken under the immediate supervision of one of us whilst operating. This goes far to insure uniformity of method and observation in our series. One of our objects being to inquire into the bacteriological condition of the peritoneum at a distance from the primary lesion the first culture tube was inoculated with the platinum loop which was introduced into the abdominal cavity directly the peritoneum was opened. In the majority of cases there was at least sufficient fluid, whatever the nature of the disease, to furnish a loopful easily. When possible a cover-slip preparation was made of this fluid also. The second culture tube was inoculated either from the peritoneal exudate or by drawing the loop over the surface of the gut in the immediate neighbourhood of the lesion. The films were prepared from the same region either with the exudate there or, in the absence of exudate, by drawing a sterile cover slip directly over the surface of the intestine.

We may here point out that we believe the uniformity of our results to have been assisted largely by the operative methods employed by the surgeons of St. Thomas's Hospital. No chemicals are used for the instruments or any other part of the operation and consequently we avoided the errors which might have arisen had minute amounts of antiseptic solutions been introduced along with the exudates into our culture tubes. Our attention was drawn to this point in connexion with some cultures taken in the gynæcological theatre where such solutions are employed to some extent and where the growth of the organisms was undoubtedly retarded in that manner. When Dr. W. W. H. Tate, at our suggestion, very kindly discarded the chemical solutions until our cultures had been taken our results at once fell into harmony with those obtained in the other operating theatres. As a control experiment we took cultures in precisely the same manner from 12 consecutive cases of abdominal operations undertaken for exploratory purposes, in which neither obstruction nor inflammatory disease was suspected. The culture media invariably remained sterile. In the majority of the cases rubber gloves were used by both operators and assistants. Even then every precaution was taken in making the cultures to avoid any region which had been touched with the fingers.

INTRAPERITONEAL HÆMORRHAGE.

There are at the present time those who, whilst admitting the bacterial origin of most diseases, are yet willing to accept the theory that peritonitis may, in certain conditions, be due to causes other than, and independent of, microbic infection. It is held that sterile fluids are capable, when introduced in sufficient quantities into the peritoneal cavity, of setting up a non-bacterial form of peritonitis and to this variety the term "chemical peritonitis" is applied. One result of our investigations upon the peritoneal exudate in cases of hæmorrhage has been not only to cast very considerable doubt upon the existence of chemical peritonitis but to guide us in the interpretation of other forms of peritonitis also.

So far as we are aware the bacteriology of intraperitoneal hæmorrhage has not hitherto been seriously investigated. The only mention of such a case which we have been able to find is by Malvoz, who, in 1891, in a case of ruptured tubal pregnancy, withdrew some fluid with a sterile aspirator before the abdomen was opened. The blood yielded a pure culture of the colon bacillus, but as there is nothing to show that the bowel was not traversed we cannot attach much importance to this observation.

We have investigated 20 cases of intraperitoneal hæmorrhage, 17 being due to extra-uterine pregnancy, two to rupture of the spleen, and one to rupture of the liver. In the cases of ruptured tubal pregnancy culture tubes were inoculated with the fluid which appeared directly the peritoneum was opened and others from the blood clot, whether old or recent, in the pelvis. Cover-slip preparations were made from the darker blood in the pelvis and these were stained by Gram's method. In three cases Gram-positive cocci were found in the films taken in this manner. By cultures the staphylococcus albus was isolated three times and the micrococcus albus once from the peritoneal cavity. *From the blood clot, however, a white staphylococcus was obtained from every case without exception.* In all the traumatic cases cultures from the blood were sterile and in two the staphylococcus albus was obtained in pure culture from the blood clot. Only one case of the whole 20 instances of intraperitoneal hæmorrhage was completely sterile and that was operated upon within two hours of the accident.

It is well known to gynæcologists of experience, and it is owing to the kindness of Dr. C. J. Cullingworth that we have become acquainted with the fact, that a pelvic hæmatocele, if left alone, may after a time become infected so as to give off, when opened, a musty or other unpleasant smell. Moreover, in days gone by pelvic hæmatocele was not an infrequent cause of pelvic abscess. This liability to infection, Dr. Cullingworth points out, is a strong argument in favour of operating upon all cases of pelvic hæmatocele. That a long-standing case is liable to infection, then, is well known, but that every case, even a few hours after the extravasation, becomes infected with micro-organisms has not hitherto, so far as we are aware, been ascertained. Again, cases of traumatic hæmorrhage which do not prove immediately fata may, if the blood is in large amount, give rise to diffuse peritonitis and the following three cases reported by Mr. Herbert W. Page are good examples of such a sequel. He, however, did not attribute the peritonitis in his cases to bacterial infection. The first was a case of rupture of the spleen in a boy, aged 14 years. The abdomen was opened 24 hours after the accident when a large quantity of dark blood was found in the peritoneal cavity but there was no evidence of peritonitis. The intestines were distended and roughened. Death took place four days later and at the necropsy recent lymph was present in the abdomen. The second was a case of ruptured liver in a boy, ten years of age. 12 hours after the accident there were signs of peritonitis present and 12 hours later again, as the peritonitis was more marked, the abdomen was opened. The liver was found to be ruptured and there was a quantity of dark blood in the peritoneal cavity. The intestines were reddened and distended. At the necropsy the intestines were found to be inflamed and adherent. The

third case was one of ruptured liver in a man, aged 22 years. The abdomen was opened 24 hours after the accident when a large quantity of dark blood was found in the peritoneal cavity. Death took place shortly after the operation. At the necropsy there was found diffuse peritonitis, the intestinal coils being glued together. Although no bacteriological examination was made, Mr. Page considered that the peritonitis which was present in all these cases was due to the fibrin ferment absorbed from the large hæmorrhages and quoted the opinion of Professor Orth that a considerable quantity of pure blood was sufficient to set up general peritonitis without any micro-organisms being present owing to the action of the fibrin ferment.

Tavel and Lanz, in their well-known work published in 1893, stated that in their opinion those cases of peritonitis which are found to be sterile are really examples of chemical peritonitis and are due to the products of bacteria rather than to the bacteria themselves. Harvey Cushing in his masterly monograph on acute diffuse gonorrhœal peritonitis has reached much nearer the truth than any other observer. He writes as follows: "Whether chemical peritonitis, so called, has any actual existence remains a question of doubt," and later, "it is possible that some forms of the chemical cases described by the surgeons may be, after all, of bacterial origin." Tavel and Lanz related several cases which they considered to be examples of chemical peritonitis, which are of such interest in view of our results that we briefly refer to them here.

One was a case of intestinal obstruction due to a band of four days' duration. The intestines were reddish brown and fibrin was present on the surface. There was blood-stained serum in the peritoneal cavity. A pure culture of a *white staphylococcus* was obtained both from the fibrin and the serous exudate. Another was a case of acute intestinal obstruction due to a volvulus in a man, aged 60 years. The intestines were enormously distended and there was a fibrinous peritoneal exudation from which a pure culture of a *white staphylococcus* was obtained. The third case was an example of suppurative cholecystitis with partial gangrene of the wall of the gall-bladder. A *white staphylococcus* was obtained from the interior of the gall-bladder in pure culture, although bacilli and chains of cocci were seen in film preparations of the pus. *A pure culture of a similar coccus was obtained from the inflamed peritoneum.* Two other cases are also reported in their paper but in both instances cultures from the inflamed peritoneum remained sterile. Although Tavel and Lanz found a coccus in three of their five cases they preferred to consider that the organism was present as a contamination and that these were really instances of chemical peritonitis. Gruber and Durham have pointed out that the failure to find microbes in peritoneal fluid is not sufficient evidence to stamp a case as chemical peritonitis, inasmuch as they may be present upon the peritoneal surface and not in the exudate. This we have found to be true in a large number of cases and attention will be directed to it again when we deal with the peritonitis associated with intestinal obstruction. As we shall show presently, we have found the white staphylococcus not only in intraperitoneal hæmorrhage and intestinal obstruction but also in many other varieties of peritonitis. We, therefore, consider that we have sufficient evidence to justify the opinion that chemical peritonitis does not exist but that the cases to which the name has been given are really instances of an infection of the peritoneum with the staphylococcus albus. We intend to discuss every important fact in connexion with this coccus after we have considered other varieties of peritonitis. We shall be able to show that this organism is important not only in intraperitoneal hæmorrhage but is the most important organism in the bacteriology of peritonitis.

The changes which ensue as the result of blood extravasation into the peritoneal cavity appear to be similar whatever the source of the hæmorrhage, provided that there is no communication either with the exterior or with the bowel. In the traumatic cases the time interval between the onset and the operation was from two to five hours; in the cases of extra-uterine pregnancy it varied from 24 hours to three months. As we have seen, the only example in which we failed to find a white staphylococcus was a case of ruptured spleen operated upon only two hours after the accident.

We have examples of every variety of blood extravasation, from the recent widespread hæmorrhage down to the old completely encysted hæmatocele. The appearances on opening the peritoneum vary in degree but not in kind. When the intestines are bathed in blood even after a very short time the peritoneum appears reddened and in the most infected portions the intestines are more or less distended. In the cases where the hæmorrhage has been arrested or is only proceeding slowly these changes are limited to the intestines immediately in contact with the extravasated blood. That peritonitis is present here is evidenced by the very fact of the walling off of the hæmatocele by intestinal agglutination. In every case of hæmatocele, even the oldest, there was an appreciable quantity of clear or slightly blood-stained exudate in the peritoneal cavity immediately overlying the hæmatocele, and this fluid in two instances, one of one month's duration and one of three months, was found to contain the staphylococcus albus, the same organism being also present in the hæmatocele itself. Of the 20 cases four proved fatal, two being examples of ruptured tubal pregnancy, and two of hæmorrhage from ruptured solid viscera. The fatal cases were all very collapsed when operated upon and died in a few hours. One traumatic case recovered after splenectomy and peritoneal lavage, and 15 of the rest after removal of the Fallopian tube and lavage. The abdomen was closed in every case but one, and that was drained per vaginam. 13 healed by first intention, but one of these became the seat of a late suppuration. In three instances suppuration of the abdominal wound occurred, and from the pus of one of these a pure culture of the staphylococcus albus was obtained.

In cases of ruptured tubal pregnancy a febrile condition is usually present both before and after operation, which is quite independent of local suppuration or of pulmonary or other complications. The fever lasts for a varying period after operation and in most cases its range is not excessive, but in nearly every instance it is remarkably higher and more constant than after any other operation which runs an aseptic course. Slight as are the pathogenic properties of the staphylococcus albus we are of opinion that the febrile disturbances so frequently found after effusion of blood into the peritoneal cavity are due to the presence of this organism and not to any hypothetical toxic substance produced by the coagulation of the blood.

INFLAMMATION AND PERFORATION OF THE HOLLOW VISCERA.

Under this heading we include the gall-bladder, the stomach, the duodenum, and the intestines with the exception of the appendix vermiformis, which will be considered separately.

Cholecystitis and perforation of the gall-bladder.—With regard to the gall-bladder, it is difficult to form an opinion as to the bacteriology of peritonitis arising from this cause owing to the scantiness of the material at our disposal. Recently J. T. Hewitson has published his results of the examination of bile taken from cases of cholelithiasis at the time of operation. He investigated 19 such cases, of which only three proved to be sterile. In the remaining instances the colon bacillus was found eight times, the streptococcus pyogenes four times, other cocci nine times, and other bacilli four times. He also tested the action of sterile bile upon a variety of pathogenic organisms and concluded that it possesses no antiseptic property whatever. Naunyn, Gilbert, Girode, Dupré, and others have found normal bile to be sterile. One of us recently found ten cubic centimetres of bile taken from the gall-bladder at an operation to be sterile under both aerobic and anaerobic conditions. Fraënkel reported a case of perforation of a diseased gall-bladder where the staphylococcus albus and the streptococcus pyogenes were found in the peritoneal exudate.

Only two instances of cholecystitis are included in our series. The first case occurred in a man, aged 68 years. This patient had had a history of gall-stones for many years. He had been very ill for 17 days before admission, with abdominal pain and fever. When admitted the temperature was 101° F. A small localised collection of necrotic material was found outside the gall-bladder, communicating with the interior by a perforation over a stone. There was a quantity of sticky, purulent, bile-stained fluid around the stones in the gall-bladder. The peritoneal cavity at a distance was found to be sterile. A pure culture of a streptococcus was obtained from the necrotic material around the gall-bladder and also from the interior of the viscus. The organism resembled the streptococcus pyogenes in most of its cultural characters, but although several tubes of litmus milk were used it failed in every instance either to acidify the litmus or to thicken the milk. When

the coccus was injected into the vein of a rabbit's ear no local erysipelas resulted and although the animal was ill for several days it finally recovered. The same organism was non-pathogenic to guinea-pigs. This coccus may have been an attenuated pyogenic streptococcus or a different organism. We are not justified, however, in describing it as the streptococcus of Rosenbach. The patient recovered.

The second case concerned a woman, aged 35 years, suffering from empyema of the gall-bladder. The peritoneal cavity was sterile. The thick, white, odourless pus in the gall-bladder gave a pure culture of the colon bacillus and the films showed only Gram-negative bacilli together with large numbers of degenerated polynuclear cells. The patient recovered.

Perforated gastric ulcer.—A well-known physician once said that "where facts are barren theories are numerous." It would be difficult to find a more suitable illustration of this truth than that afforded by perforating ulcer of the stomach. It is, however, only with reference to the peritonitis produced by this accident that we are at present concerned. Very little work has been done upon the bacteriology of gastric perforations. Hewitson, from experiments made with gastric contents taken during operations, concluded that in half the cases the contents of healthy stomachs are sterile and that in the other half either the organisms present are non-pathogenic or their degree of pathogenicity is extremely low. In diseased conditions, however, the percentage of sterile cases is lower but neither in the stomach nor in the exudate in cases of gastric perforation did he describe an organism resembling the one which was present in every one of our cases.

Lately, owing to the work of A. Ghon, the pneumococcus has been credited with an important share in the causation of gastric perforation. This observer reports four cases which, however, are not as fully described as one would wish when we consider the important bearing which this communication must have on future work. It is significant that only one of these cases of perforation of the stomach was due to a simple ulcer. Jensen is stated to have isolated the pneumococcus from the peritoneal exudate in three cases of perforated gastric ulcer. Brünner collected 22 cases of perforated gastric ulcer which had been examined bacteriologically and found that four were due to the pneumococcus. Other observers have claimed, but with insufficient evidence, that streptococci and staphylococci are the cause of the active changes which take place in the stomach wall.

It will thus be readily seen that the bacteriological investigations of this very important disease and of its most important complication have been found to be of little value. It is therefore with a feeling of some reserve that we bring forward our results. This investigation has led, however, to most constant results. We have isolated a strepto-diplococcus from the edge of the ulcer in every case; from the peritoneal exudate in four instances out of a total of seven. We have also obtained this same organism from the pleural sac and from the subdiaphragmatic abscess following on perforated gastric ulcer in which the strepto-diplococcus has been isolated and also from a perigastric abscess. A full account of this research will now be given and although it is not our wish to suggest that this organism which has been found in every case, without exception, is the cause of the disease, yet we do claim that these results are of considerable importance and will serve as a basis for future work.

CASE 1.—The patient was a male, aged 32 years. About a couple of drachms of thick, white, odourless pus escaped from a perigastric abscess. The peritoneal cavity was not opened. Film preparations of the pus from the abscess showed large numbers of polynuclear cells and diplococci and short chains of diplococci which were Gram-negative. A pure culture of the strepto-diplococcus was obtained from the contents of the abscess.

CASE 2.—The patient was a female, aged 21 years. Acute symptoms had lasted 24 hours. A large quantity of viscid, clear, but slightly greenish fluid was present in the peritoneal cavity. Large numbers of polynuclear cells were found in the peritoneal exudate. A few diplococci were also seen but these were entirely intracellular and did not stain by Gram's method. A pure culture of the strepto-diplococcus was found in the peritoneal exudate and the same organism with the staphylococcus albus from the edge of the ulcer. There was very little evidence of peritonitis at the time of the operation and the patient made an excellent recovery.

CASE 3.—The patient was a male, aged 32 years. Perforation had occurred six hours before operation. A fair quantity of milky fluid escaped from the peritoneal cavity at the operation. There was only a very slight degree of peritonitis. The man made an excellent recovery. We failed to observe any organisms in the peritoneal exudate although numerous polynuclear cells were found. A pure culture of the strepto-diplococcus was obtained, both from the fluid in the peritoneal cavity and from the edge of the ulcer.

CASE 4.—The patient was a female, aged 23 years. Perforation ha occurred 14 hours before operation. There was a good deal of turbi fluid and free gas in the peritoneal cavity. The peritonitis appeared to be only of slight degree. Cover-slip preparations were made of the general exudate. Numerous polynuclear cells and cocci, diplococci, and short chains of strepto-diplococci which did not stain by Gram's method were present. A pure culture of the strepto-diplococcus was obtained from the peritoneal exudate and from the edge of the ulcer.

CASE 5.—The patient was a female, aged 19 years. Perforation had occurred 24 hours before operation. There was a large quantity of turbid fluid present in the general cavity, the intestines were distended and reddened, and there was marked evidence of diffuse peritonitis. The patient died a few hours after the operation. Numerous polynuclear cells were met with in the peritoneal exudate but no micro-organisms. The strepto-diplococcus was isolated from the general exudate and the colon bacillus and the coccus from the edge of the ulcer.

CASE 6.—The patient was a male, aged 27 years. A considerable amount of green turbid fluid was present in the general cavity but no gas. The acute symptoms occurred 32 hours before the operation. The patient recovered. Film preparations of the exudate were unfortunately omitted in this case. A pure culture of the strepto-diplococcus was obtained from the peritoneal exudate and from the edge of the ulcer.

CASE 7.—The patient was a female, aged 25 years. A considerable amount of gas and turbid fluid was present in the general cavity. The perforation had occurred 19 hours before operation. Only slight evidence of peritonitis was found. Polynuclear cells were numerous in the peritoneal exudate and also diplococci which stained by Gram's method. The turbid fluid from the general cavity was found to be sterile, but the strepto-diplococcus and the staphylococcus albus were obtained from the edge of the ulcer and from the surface of the stomach. The patient did well for ten days but eventually died from septic pneumonia.

CASE 8.—The patient was a male, aged 57 years. Perforation occurred 28 hours before operation. There was a large amount of turbid fluid and free gas in the peritoneal cavity. The patient made a complete recovery. Numerous polynuclear cells and Gram-positive cocci were present in the peritoneal exudate. The fluid in the general cavity was found to be sterile, but cultures from the edge of the ulcer and from the peritoneal surface of the stomach gave a growth of the strepto-diplococcus and staphylococcus albus.

CASE 9.—The patient (Case 4 above) developed a subphrenic abscess nearly a month after the operation for perforated gastric ulcer. Thick cream-coloured non-offensive pus was present in the abscess cavity. The strepto-diplococcus and the staphylococcus albus were isolated from the abscess cavity and from the surface of the pleura. The patient died at a later date from portal pyæmia.

We are now in a position to discuss this organism which has been found in every case of perforated gastric ulcer. The following is a full account of its morphology, staining properties, and pathogenicity.

Morphology.—This coccus occurred both in the films of the exudate and in the various media, but more especially broth, in the form of a diplococcus and also in chains of eight or ten cocci or diplococci, while not infreqently 20, 30, and 40 cocci helped to form a chain. We have described the coccus as a diplococcus because it was much more frequently found in the form of a diplococcus than as single coccus. We did not observe a capsule on any occasion. The organism was non-motile.

Staining reactions.—This coccus in the large majority of cases, whether direct from the patient's tissues or from artificial culture media, failed to retain Gram's stain. In one or two instances it was found to stain slightly by Gram's method but a true positive reaction was not seen. The coccus stained well with the aniline dyes.

Cultural characters.—These were as follows:—

Agar.—In every case the organism grew well on the surface of agar. The colonies were always small, of about the size of an active streptococcus colony. They appeared to be of about the size of a pin's head, even after several days' growth, and opaque, delicate, quite isolated, with no tendency to form a continuous streak, faintly granular, and with a regular margin.

Broth.—The growth in this medium was of the same character in every case—viz., sandy deposit—but quite clear above. When the broth-tube was shaken a distinct but finely granular deposit was visible.

Litmus milk.—This medium was acidified in either 48 or 72 hours. No thickening or clotting occurred in most cases even at the end of a month's incubation. In two instances, however, the milk thickened at the end of 48 hours and a distinct clot formed in eight days in the former example.

Jelly.—In three instances the surface of growth was noticed on the jelly media. In each case there was a very fine pin-head growth forming isolated points with no tendency to coalesce. The medium was not liquefied even at the end of one month's incubation at 22° C. The colonies were almost transparent.

Neutral red jelly.—The colour of this medium was unaffected.

Potato.—No growth was obtained.

Glucose broth (anaerobic).—In those cases in which

anaerobic methods were used the growth appeared to be similar to the aerobic growth.

Pathogenicity.—A 24-hours' broth culture was used for inoculating guinea-pigs and mice, either or even both subcutaneously and intraperitoneally. We failed to kill any of these animals with this organism. In many cases the animals were extremely ill but death never occurred, and we did not observe any pathological lesion at the necropsies on animals inoculated with the culture of this coccus.

Agglutination tests.—In no instance was the agglutination test found to be of any value.

We have given the chief points which have been investigated so far as regards this organism. Has it any relation to the streptococcus pyogenes, pneumococcus, or other pathogenic organism? It is quite evident that this coccus has very low pathogenic properties in the human being, in the large majority of cases. It is found, as we have shown, in the peritoneal cavity in cases of perforated gastric ulcer and yet the patients do not die from peritonitis. It is true that it was found in the pus from a case of subphrenic abscess in conjunction with the staphylococcus albus but the peritoneum seems to be able to deal with the organism better than the tissues—by no means a new idea as regards micro-organisms and the peritoneum. One would imagine that this coccus is sufficiently pathogenic in the human tissues to produce the well-known ulcer of the stomach, as we have found it in every case at the edge of the ulcer. There is not sufficient evidence from our investigation to warrant this view, although one would not expect a streptococcus or any other organism to be present in every case if it had nothing to do with the disease. In sections of the stomach wall around the site of perforation of an ulcer large masses of cocci can be seen and also diplococci, but no true streptococci. Several observers have drawn attention to the presence of cocci in the gastric wall in cases of ulceration, but it by no means follows that these organisms are therefore the cause of the condition.

The nature of this strepto-diplococcus.—It will be evident from these points to which we have drawn attention in the life-history of this coccus that its cultural properties are not constant in every case. This, however, is common to most micro-organisms, but on the whole the morphology, the cultural characters, the staining properties, and the pathogenicity are fairly regular. It is now generally recognised that various cocci which have been described by different authors as the streptococcus pyogenes are really nothing more than streptococci and not the true coccus of Rosenbach. The same may be said of the pneumococcus and also of many other micro-organisms. The streptococcus which we have described, however, differs in so many respects from the streptococcus pyogenes that it would be impossible for anyone to consider the two micro-organisms as one. In the first place, it was Gram-negative. The constant tendency to form a diplococcus arrangement is quite unlike the streptococcus pyogenes. The organism resembled the streptococcus pyogenes in the fact that it did not alter the colour of neutral red jelly. The individual colonies on agar are perhaps larger than in the case of Rosenbach's coccus. The pathogenic properties of streptococci certainly vary considerably. A streptococcus which has produced severe changes in the tissues of men may be found to have very little effect when inoculated into a susceptible animal. We failed to find any evidence of erysipelas at the site of inoculation in our animals. As already stated, this strepto-diplococcus failed to kill, although in almost every case the inoculated animal was ill for some hours after the inoculation. There is one point which is quite certain, that if this coccus were the streptococcus pyogenes the perforation of gastric ulcer would be followed by almost certain death. There is not the slightest reason to discuss the relationship of this organism to the pneumococcus as they differ perhaps even more than in the case of the streptococcus. We are, therefore, inclined to allow this strepto-diplococcus to remain unclassified.

In six cases the peritoneal cavity was flushed out after suture of the ulcer and in one practically no washing was done. This last case had been perforated 24 hours, the small aperture was closed with lymph at the time of operation, and the signs of peritonitis were slight. No drainage was employed and the wound healed by primary union. Recovery took place in five instances (though one patient died a month later from portal pyæmia), the wound in the two cases where drainage was not employed having healed without suppuration. Two patients died, one on the tenth day from pneumonia but without any peritoneal symptoms and the other from diffuse peritonitis soon after the operation. This last was the only case in which the colon bacillus was found and at the necropsy there was present a condition of universal peritonitis which exhibited the peculiar sticky exudation seen in the peritoneal cavity of guinea-pigs killed with this organism.

As in the case of acute perforations, so it is with localised abscesses dependent upon gastric ulcer. In one instance there was a local perigastric abscess adherent to the anterior abdominal wall in a man, aged 32 years, who, after a long history of gastric symptoms, had been rather acutely ill for a fortnight before operation. The thick odourless pus showed the same strepto-diplococcus to be present. In another example a left-sided subphrenic abscess was opened 25 days after operation for an acute perforation. The pus was odourless, thick, and cream coloured, and had to be reached through the diaphragm. Both the pleural sac, which was inflamed and moist, and the abscess gave a pure culture of the strepto-diplococcus, which both in the peritoneal exudate and in the edge of the ulcer had been found at the first operation.

In the cases of gastric ulcer the operation was undertaken at times varying from six to 32 hours after perforation. In all there was a large amount of fluid in the peritoneal cavity, which was thin, turbid, and sour-smelling. In two examples it was distinctly greenish; in one, where the perforation was minute and closed by lymph, the fluid was quite clear and sticky. The intestines were, as a rule, reddened but very little distended; what signs of peritonitis were present were usually only at all obvious in the immediate neighbourhood of the perforation, where flakes of lymph were commonly seen. The only instance in which the peritonitis was observed to be at all extensive and in which intestinal distension was marked was the instance in which the colon bacillus was found and which succumbed to peritonitis. This is further proof of the great importance of the colon bacillus in peritonitis. It is also of interest that although this bacillus was isolated in this instance the strepto-diplococcus also was present. We should expect, if certain popular theories were correct, that the bacillus would have outgrown the coccus.

Perforated duodenal ulcer.—In these cases we find a bacterial condition rather different from that obtaining in the gastric cases. In the four examples in our series the perforation was situated in the first part of the duodenum and the appearances afforded by the peritoneum and the exudate were similar to those seen in the gastric cases. In no instance, however, was the strepto-diplococcus isolated from the exudate, which was sterile in three cases and contained the colon bacillus in the remaining one. The gut surface once showed the staphylococcus albus; on two occasions the staphylococcus albus was isolated from the edge of the ulcer, and once the colon bacillus together with the strepto-diplococcus. The time that had elapsed between onset and operation was in two instances four hours; in one, nine hours, and in the fourth, 19 hours. In every case the ulcer was sutured and the abdomen was washed out. Two recovered, one with and one without drainage, and in both instances the wounds healed kindly. Of the two fatal cases one succumbed to pneumonia on the third day but with a healthy peritoneum; the other died from diffuse peritonitis and this was the one example in which the colon bacillus was present in the peritoneal exudate; the perforation had occurred 19 hours before operation. In this instance a large quantity of turbid, sour-smelling fluid and some gas were present in the peritoneal cavity. Large numbers of polynuclear cells and Gram-negative bacilli were present in the exudate. The colon bacillus was found in pure culture in the exudate and the same organism together with the strepto-diplococcus in the edge of the ulcer. The coccus was not fully worked out in this case.

Perforation of the jejunum.—We mention separately one remarkable instance of perforation of a peptic ulcer of the jejunum which occurred 22 months after gastro-enterostomy for simple gastric ulcer. The patient was a male, 30 years of age, and the acute symptoms had been present for four hours before the operation. A large quantity of clear, odourless fluid was free in the peritoneal cavity and there was a small perforation in the jejunum close to the anastomotic opening, around which the peritoneum was reddened and covered with flakes of fibrin. Elsewhere there was scarcely any sign of peritonitis. The exudate showed large numbers of degenerated cells and a few polynuclear cells but

no organisms. From three situations—namely, the exudate, the edge of the ulcer, and the surface of the jejunum—the staphylococcus albus was obtained in pure culture. The ulcer was invaginated, the abdomen was flushed out, and the pelvis was drained. The patient recovered, the wounds having healed well.

Perforation of the ileum.—In this class there are four examples, one being due to a bullet wound, one to a chronic ulcer of undetermined nature, and two to typhoid ulcers. The gunshot wound of the ileum occurred in a healthy boy, aged 18 years, who was operated upon 20 hours after the accident. There was a little bloody exudate amongst the slightly reddened but not distended coils of small intestine. Two minute perforations and three bruises were found in the ileum about three feet from the ileo-cæcal valve, the wound of entrance having been situated through the right rectus at the level of the umbilicus. Before operation the only signs of intra-abdominal injury were slight tenderness round the wound and a steadily accelerating pulse-rate, which reached 120 before operation. The surface of the intestine at a distance was found to be sterile; the blood-stained fluid around the perforations showed only blood in films and gave a pure growth of the staphylococcus albus. The perforations were closed, the intestines in the neighbourhood were washed over with sterile saline solution, and the abdomen was closed without drainage. The wound healed by primary union. We regard this case as forming a link between those of intraperitoneal hæmorrhage without intestinal lesion on the one hand, and perforations due to disease, on the other. In the former there is no intestinal perforation, in the latter the contents of the perforated intestine are in a state of exalted virulence, whilst in this instance the intestine was in an absolutely healthy condition when the perforation took place.

The difference in prognosis in perforation of the intestine according to whether the bowel is or is not diseased at the time of perforation is obvious when we look at the mortality of the two conditions. In diseased conditions, perforated appendix or typhoid ulcer for instance, the mortality is not less than 70 per cent., but in gunshot wounds in civil practice, of which we have collected 15 cases from various sources, the mortality was only 20 per cent. It is only fair to say, however, that these cases are usually operated upon earlier but this fact would scarcely make the difference between 20 and 70 per cent.

PERITONITIS IN TYPHOID FEVER.

The rôle of the bacillus typhosus in peritonitis is a very doubtful one. Curschmann believes that cases of peritonitis without perforation sometimes occur during attacks of enteric fever and are characterised by mild onset, irritative symptoms in the right iliac fossa, and perityphlitic exudation, and that the course of such cases is relatively favourable. He quotes a case recorded by Murphy in which there was peritonitis without perforation and five cases reported by Gardner in which a fatal peritonitis occurred without perforation. The Munich necropsies show that peritonitis without perforation occurs in 2·2 per cent. of the fatal cases. Cushing, also believing that a localised peritonitis may occur without perforation, considers such a condition to constitute a pre-perforative stage. But of the bacteriology of non-perforative peritonitis in typhoid fever we know nothing.

Much of our knowledge of typhoid fever at the present day is derived from the work which has been done at the school of Baltimore. Cushing published his excellent monograph on Intestinal Perforation in Typhoid Fever in the Johns Hopkins Reports in 1898. We wish to refer to the chief points in this paper before giving the details of our own work. His cases are as follows:—

CASE 1.—The peritoneal cavity was opened four hours after the first symptoms of perforation occurred. About 200 cubic centimetres of sero-purulent fluid escaped, chiefly from the pelvis. Cover-slip preparations of the fluid showed large numbers of polynuclear cells but no organisms. A small perforation which was found in the ileum was sutured. Many thin ulcers were seen at the time of operation. Cultures taken from the peritoneal exudate were found to be sterile. A second operation for the relief of the symptoms, which had been those of perforation, was performed but none, however, was found. There was no fluid present and the cultures from the peritoneal cavity remained sterile. 34 hours after this operation the patient developed acute intestinal obstruction, due to adhesions around a second perforation. The obstruction was relieved and the perforation was sutured. Culture tubes which were inoculated with the exudate from the site of obstruction gave a growth of the colon bacillus, the bacillus proteus vulgaris, the bacillus lactis aerogenes, and an organism culturally closely akin to the bacillus typhosus. The convalescence was tedious but the patient eventually recovered.

CASE 2.—Intestinal perforation occurred in the fifth week of typhoid fever. Diffuse peritonitis was present at the time of operation. Three perforations in the ileum were sutured but death occurred on the operating table. Cover-slip preparations of the peritoneal exudate showed numerous cocci, but most bacilli, and a large number of pus corpuscles. No streptococci were seen. A pure growth of the colon bacillus was obtained. Dr. Cushing, however, does not attach much importance to the presence of this organism in the peritoneal cavity. He says, "Undoubtedly the colon bacillus being more in evidence is frequently held responsible for peritoneal infection due to more virulent but culturally less vigorous organisms." We shall have occasion to criticise this statement in another lecture.

CASE 3.—Perforation occurred at the end of the fourth week of typhoid fever, after prolonged abdominal symptoms. The perforation was sutured but death took place eight hours after the operation. The streptococcus pyogenes and the colon bacillus were isolated from the peritoneal exudate. At the necropsy a pure growth of the colon bacillus was obtained from the liver, kidney, and a mesenteric gland. The bacillus typhosus was isolated from the spleen and gall-bladder and the streptococcus pyogenes from the peritoneal cavity. This case, perhaps more than any which has yet been recorded, serves to illustrate one of the most important points in the bacteriology of peritonitis. Cushing, while discussing the previous case of peritonitis, stated what perhaps is the most popular belief in medical literature—that the colon bacillus grows so rapidly that it is held responsible for the large majority of cases of peritonitis which are really due to more virulent but culturally less active organisms. The example of streptococcic peritonitis to which he had just previously referred in his paper is a direct contradiction of this statement. We might describe this case as a practical proof against a popular theory. We have still a remarkable fact to record in this example of peritonitis to which we have drawn attention. The streptococcus pyogenes and the colon bacillus were isolated from the peritoneal cavity at the time of operation, but the streptococcus alone at the necropsy—a reverse order of things. This case, therefore, must be one of the most extraordinary yet recorded.

We shall have to refer more fully to these valuable observations of Cushing when we come to discuss the peritonitis of streptococcic origin. The typhoid bacillus has been obtained from the peritoneal exudate in perforative typhoid fever both by Flexner and Hays; from an example of diffuse peritonitis due to a suppurating mesenteric gland by Körte; and Klein is said to have isolated the typhoid bacillus from the peritoneal exudate in a case of localised peritonitis. These cases appear to be the few recorded, if not the only, examples of peritonitis from which the typhoid bacillus has been isolated. We must remember that a bacteriological examination of the peritoneal cavity in perforative typhoid fever has only been made in a few of the great scientific medical schools in America and on the continent, if we can judge by the literature. So much Keen states in his book on "The Surgery of Typhoid Fever" that he only knew of a single instance in which a bacteriological examination was made of the contents of the peritoneum in typhoid perforation. In 1902 seven cases of typhoid perforation were recorded at a meeting of the Clinical Society of London but a bacteriological examination of the peritoneal exudate was omitted in every case.

Hays reported two such cases, finding the bacillus typhosus in one and the streptococcus pyogenes in the other. Both patients died. Manahan investigated two cases at the time of operation. In one, ten hours after perforation, the films were sterile and the cultures showed only the colon bacillus. The serum reaction was positive and the patient recovered. In the second case the staphylococcus albus and the colon bacillus were isolated from the cultures. The patient died. Varvachi investigated six cases but all post mortem; all showed the colon bacillus and none the bacillus typhosus.

We are able to record two cases of typhoid perforation in which we have made a complete bacteriological examination of the peritoneal exudate, as far as it is possible to do so. We have included the clause "as far as it is possible to do so" because surgeons usually perform a comparatively limited operation for this complication of typhoid fever and therefore it is generally impossible to make cultures of the peritoneal exudate at a distance.

CASE 1.—The patient was a boy, aged eight years. About two ounces of turbid fluid escaped from the incision in the peritoneum and also a very small quantity of gas. A perforation which was found about four inches from the ileo-cæcal valve was invaginated. The intestines were uniformly pink but not much distended. Large numbers of polynuclear and mononuclear cells were present in the cover-slip preparations of the peritoneal exudate and also large numbers of Gram-negative bacilli. The turbid fluid which escaped from the peritoneal cavity at the time of operation was collected in a sterile tube and sent immediately to the bacteriological laboratory. Broth tubes were inoculated with this fluid and then incubated for 24 hours at 37° C.; agar plates were also made directly from the fluid. The broth tube showed a good growth in 24 hours. This was then plated on a series of agar plates. A pure culture of the staphylococcus aureus was obtained from all the plates. Numerous colonies of a Gram-negative bacillus were also seen on each plate. Many of these colonies were tested with positive typhoid serum but the bacilli present in each colony which was examined failed to give an agglutination reaction. This bacillus proved to be the bacillus coli.

CASE 2.—The patient was a male, aged 30 years. There were about two pints of milky fluid in the lower portion of the abdomen and also

much free gas. Two minute perforations were found close to the ileo-cæcal valve. Both perforations were invaginated by sutures and the lower half of the peritoneal cavity was washed out with normal saline solution. The patient died 48 hours later. Cover-slip preparations were made of the peritoneal exudate at the time of the operation. Large masses of polynuclear neutrophiles were seen in the films, many of which were phagocytic. Gram-positive cocci and Gram-negative bacilli were also seen. Aerobic and anaerobic cultures were made from the fluid in the peritoneal cavity. *Three strains* of the bacillus coli were isolated from this exudate but two of these strains which were fully examined were found to differ not only in their cultural characteristics but also in their pathogenicity to guinea-pigs. The importance of these facts concerning the colon bacillus cannot be overestimated and we have therefore dealt fully with this subject in a subsequent lecture. Large numbers of colonies of bacilli which grew on the agar plates were tested with positive typhoid serum but failed to give any reaction. A staphylococcus which stained by Gram's method was present in the film preparations of the peritoneal exudate and in the original cultures both aerobic and anaerobic but we did not obtain any colonies of the coccus on any of the plates.

Lastly, although Flexner and Vincent have found streptococci frequently in the peritoneal cavity of cases dead from perforation of the intestine in typhoid fever we have not observed this coccus in either of our cases examined at the time of operation.

Turning now to the clinical aspect of these two cases we find that perforation occurred in the third and sixth week of illness and that the operation was undertaken respectively 48 and ten hours after perforation. Both were treated by suture, limited lavage, and drainage, and both patients died. The bacillus typhosus was found in neither case; in one the colon bacillus only was found and in the other the colon bacillus and the staphylococcus aureus. In both the post-mortem examination showed intense universal peritonitis to be present. In these cases, owing to the limited exposure at the operation, we were unable to ascertain the bacteriological condition of the peritoneum in a remote region. Ashurst collected from the literature records of 326 cases of intestinal perforation during enteric fever which were submitted to operation. The mortality was 74 per cent. Now, this death-rate is lower by about 6 per cent. than that of perforative appendicitis, which when we consider that in the one case the patient is debilitated by two or more weeks of an exhausting illness, whilst in the other he is usually attacked when in perfect health, is sufficient to excite our curiosity. It is even most striking when we consider that operations undertaken for perforation occurring during a relapse show a lower rate of mortality than those which occur in an initial attack. It may be that one contributing factor is that the patient is already under skilled observation, so that a diagnosis can be made and operation proceeded with earlier. We venture to think that there are other explanations also. In the first place the gradual thinning and distension of the intestine will have allowed time, in the cases of typhoid fever, for the natural protective mechanism of the peritoneum to have been called into play; in the cases of perforated appendix, on the other hand, the lethal organisms are suddenly, as it were, launched upon an unprepared peritoneum. Again, the patient is usually so ill, in the cases of typhoid fever, when operated upon that the surgeon not only operates with the utmost rapidity, a factor of no little importance in all acute abdominal operations, but dares not douche and scour the peritoneum with the same heroism as he sometimes applies to the appendix cases.

Perforation of a malignant growth of the colon.—The following instance of perforation of a carcinoma of the colon illustrates well the rôle played by the staphylococcus albus in peritonitis and is in complete harmony with the appendicitis cases. A woman, aged 60 years, had had an abdominal tumour accompanied by chronic constipation for nine months. For five days the tumour had been more painful. When admitted the temperature was 102° F. and on the previous day she had had a rigor. The abdomen was rather distended but obstruction was not absolute. The abdomen was opened in the mid-line, when omentum of normal appearance presented. This proved to be sterile. Proceeding towards the tumour the intestines in its neighbourhood were found to be reddened but not distended; cultures from the gut surface gave a pure growth of the staphylococcus albus. Close to the tumour there was some clear fluid which also gave a pure culture of the staphylococcus albus. Film preparations of this fluid contained large numbers of healthy polynuclear cells but no micro-organisms. The peritoneal cavity was then packed off with strips of gauze and a foul abscess was opened. Film preparations of the pus showed numerous degenerated cells as well as Gram-positive cocci and Gram-negative bacilli. From the cultures were isolated the colon bacillus and the staphylococcus albus. We did not obtain a growth of anaerobic organisms although every precaution was used. The patient died on the fourth day and at the necropsy a condition of intense diffuse peritonitis was found. There is little doubt that the colon bacillus had invaded the general peritoneal cavity owing to the opening of the abscess and given rise to the fatal peritonitis. We have here, however, a clear example of the protective influence afforded by the staphylococcus albus and its attendant phagocytic cells, which, owing to the slow progress of the disease, had been able to exert a restraining power on the colon bacillus and prevented this organism from terminating the patient's life earlier.

THE STAPHYLOCOCCUS ALBUS IN PERITONITIS.

We have considered it advisable to refer to the coccus which we have isolated from the peritoneal cavity in ruptured tubal gestation, appendicitis, and in all other varieties of peritonitis, as the white coccus or the staphylococcus albus. The organism which was described by Rosenbach as the staphylococcus pyogenes albus sometimes produces abscesses when injected subcutaneously into guinea-pigs and rabbits and may produce septicæmia and pyæmia when inoculated intravenously into these animals. The white coccus which we isolated from our cases of peritonitis differed from Rosenbach's coccus as regards its pathogenicity and therefore it is perhaps advisable to omit the term pyogenic when referring to the coccus present in our cases. Professor W. Welch preferred to name the organism which he isolated from aseptic wounds, stitch abscesses, and also from the peritoneal cavity in a case of peritonitis, the staphylococcus epidermidis albus. He considered that it was probably an attenuated variety of the staphylococcus pyogenes albus. We can do no better than follow in the footsteps of so eminent an authority as Professor Welch and omit the term pyogenes.

TABLE I.—*Showing the Number and Variety of Cases from which the White Coccus was recovered from the Peritoneal Cavity in Peritonitis.*

Table.	Nature of case.	Number of cases in which the white staphylococcus was isolated.	Number of cases in each table.	Number of cases in which a staphylococcus was present but not identified.
1	Ruptured tubal gestation.	17	17	0
2	Intraperitoneal hæmorrhage from other causes.	2	3	0
3	Salpingitis.	1	8	1
4	Ovarian cystitis.	2	3	0
5	Strangulated hernia.	12	47	1
6	Intestinal obstruction.	24	53	
7	Inflammation and perforation of the hollow viscera.	10	21	1
8a	Acute appendicitis with diffuse non-perforative peritonitis.	4	11	0
8b	Acute appendicitis with diffuse perforative peritonitis.	3	17	1
8c	Appendicitis with local abscess formation.	15	40	10
8d	Appendicitis complications.	5	9	0
8e	Interval cases of appendicitis.	10	16	1
9	Post-operative peritonitis.	2	7	0
10	Septicæmic peritonitis.	1	6	0
11	Exploratory celiotomy.	0	12	0
	Total	108	270	17

Morphology.—This organism was found to be identical morphologically with the various types of staphylococci. It stained well by Gram's method and with the various aniline dyes. The individual cocci were smaller when the organism was grown anaerobically and in these instances the cocci showed less tendency to retain Gram's stain.

Cultural characters.—The organism was found to be a facultative anaerobic. It did not decolourise Weil's medium and failed to produce gas in any medium containing glucose.

Broth.—Marked turbidity of the medium occurred and a corkscrew-like deposit on shaking the culture-tube was obtained in every case within a period of 24 hours.

Agar.—A pure white streak along the line of the needle with irregular margins due to isolated colonies was obtained on every occasion. In some instances the growth on agar was dry but in the large majority of cases it was moist.

Jelly.—A growth was seen in every instance within 24 hours which gradually increased. Liquefaction of the medium generally occurred about the second to the fifth day. In two examples we failed to obtain any liquefaction.

Neutral red jelly.—The cultural characters were similar to those which have been already mentioned in the case of ordinary jelly. The colour of the medium was changed to yellowish-brown in 13 examples, a change which usually took place within eight days, at 22° C. The colour remained unchanged in 11 instances.

Litmus milk.—This was acidified in every instance, usually within 48 hours. It was generally thickened within 48 hours and clotted in from three to four days. In three instances clotting did not take place until after the tenth day. In many instances, especially if the clotting was slight, the casein was gradually redigested.

Potato.—The growth on potato could seldom be described as luxuriant. Numerous white dots on the surface of the medium which after two or three days' growth gradually formed a continuous streak were of common occurrence. In a few instances only a very slight growth occurred.

Neutral red broth.—This medium was employed in but a few instances, so that it is impossible to form any definite opinion as to its value. In most instances in which it was employed we noticed that the neutral red colour was changed for a bright pink colouration.

Indol reaction.—This reaction was not present in those instances in which the test was employed. This, of course, refers to both young cultures in peptone water and also cultures of from six to ten days old.

Surface colonies on jelly plates.—Small but distinct colonies were recognised after 24 hours' growth at 22° C. At the end of 48 hours' inoculation the colonies when examined by direct light were found to be small raised white points and with transmitted light were shown to have a distinct and regular margin, while each colony was definitely granular.

Pathogenicity.—Young broth cultures of the white coccus obtained from various cases of peritonitis were injected into the peritoneal cavity of animals. We usually noticed that the animals were ill for several hours but usually were perfectly well within 24 hours. In some instances inoculation of the coccus into the peritoneal cavity of guinea-pigs did not produce any obvious effect. We have shown, however, that the inoculation of this organism into the peritonial cavity of guinea-pigs produces a large quantity of clear effusion into the peritoneal sac within an hour of inoculation. Large numbers of phagocytes also take an active part in freeing the peritoneum from this coccus. These observations show that it is impossible to judge an inoculation experiment without a very exact necropsy. In some instances this organism was injected into the peritoneal cavity of guinea-pigs prior to an injection of the colon bacillus, with the most remarkable results which are fully dealt with elsewhere. Subcutaneous injection of the coccus into various animals seldom produced more than an inflammatory swelling of about 48 hours' duration. Occasionally the swelling subsided much more rapidly without any obvious ill effect. In no instance, however, did suppuration occur. An induration around the site of inoculation in those cases in which the white coccus had been injected subcutaneously was frequently noticed. We very much regret that we failed to inject the white staphylococcus into the blood stream of rabbits, as this is often found to be a ready means of forming an opinion of the pathogenic properties of this coccus.

Agglutination reactions: technique.—In every case a 24-hours' agar culture was employed. An emulsion was made with 0·85 per cent. normal saline solution; sometimes the coccus clumped spontaneously in this emulsion but when the strength of the saline was decreased to 0·1 per cent., as suggested by Wright and Douglas in the case of the plague bacillus, this no longer occurred. A control experiment was, of course, carried on during the whole period of each observation.

It is usually considered at the present day that complete loss of motility and diffuse and "tight" agglutination within a period of 30 minutes with a dilution of 1 in 150 are diagnostic of typhoid fever. So far as we are aware the agglutination reactions of the staphylococcus albus are unknown, whilst only a small amount of work has been published regarding agglutination experiments with the staphylococcus aureus. Otto concludes that of the many varieties of staphylococci there is only one which is really pathogenic to man. This variety, he says, may easily be distinguished by its strictly specific agglutination reaction with the serum of an animal immunised against this pathogenic variety. It is, however, generally recognised that pathogenicity and agglutination bear no constant relation to one another and, therefore, for this, amongst other reasons, we cannot place any reliance upon these observations of Otto.

It is impossible at present to lay down any fixed rule as to what constitutes a positive or a negative staphylococcic reaction and we have, therefore, been obliged, for the purposes of this work, to fix an arbitrary standard. We have tested the agglutination reaction of the staphylococcus albus, isolated from various cases of peritonitis, with the patient's own serum and in certain instances with the serum of other patients, in 46 cases. In 26 instances there was no reaction with a dilution of 1 in 10. In seven instances well-marked clumping of the cocci occurred with dilutions of 1 in 10, 1 in 20, and 1 in 50 within a period of one hour, and in one instance with a dilution of 1 in 100. In five examples well-marked clumping took place with 1 in 10 and 1 in 20, but only a slight reaction was seen with a dilution of 1 in 50 within a period of 60 minutes. In four cases good reactions occurred with dilutions of 1 in 10 and 1 in 20 within a period of one hour but no reaction was obtained with a dilution of 1 in 50. In two cases there was only a slight reaction with dilutions of 1 in 10 and 1 in 20 in 60 minutes. In two examples some reaction was obtained with a dilution of 1 in 10 but not with any further dilution. None of these cocci when tested with the serum of a normal person gave any reaction whatever. If we now turn to the length of time that the patients had been ill before the operation and divide it into periods a very striking result is obtained. In six cases the illness had lasted for less than six days and none of these gave any reaction. In the 12 cases which gave a reaction with a dilution of 1 in 50 the length of history lay between six days and 16 weeks. In the four which gave a good reaction with 1 in 20 but none with 1 in 50 dilution the illness had lasted for from one to three months.

It is scarcely fair to compare two organisms differing so widely in their degree of pathogenicity as the staphylococcus albus and the bacillus typhosus, but we may say that in one respect they resemble one another in the agglutination reactions. A well-marked typhoid serum reaction rarely occurs before the tenth day of illness and we see very much the same to be the case with the staphylococcus albus; no reaction was obtained in a case of less than six days' history.

Browne and Crompton, working in the clinical laboratory of St. Thomas's Hospital, have obtained the following interesting results as to the length of time in which the typhoid agglutination reaction persists after an attack of typhoid fever. With a dilution of 1 in 50 they found that there were only two instances in which the reaction was positive seven months or more after the attack of typhoid fever. In 50 per cent. the reaction was positive from one to six months after the attack, while a large number of the negative cases reacted to dilutions of 1 in 10 and 1 in 20. They considered a reaction to be positive when complete loss of motility and diffuse "tight" agglutination occurred within a period of 30 minutes. We do not know how long it may persist in the case of the staphylococcus albus, but the evidence which we have leads us to the conclusion that the agglutinative properties may last some months, as in the case of patients who returned for appendicectomy several weeks after the healing of an abscess, and in whom the staphylococcus was still found to be present in the peritoneal cavity. The case in which the best reaction was obtained was one of great interest. An appendix abscess had been opened 11 weeks previously and had healed. The patient had been taken ill again three days before admission and was found to be suffering from diffuse peritonitis. The staphylococcus albus, which was isolated from beyond the region which contained the colon bacillus, was rapidly and "tightly" agglutinated by the patient's serum. Recovery took place.

It is scarcely necessary to add that any lingering doubt regarding the staphylococcus albus as a possible contamination is finally disposed of by the agglutination reactions.

TABLE II.—*Staphylococcus Albus: Agglutination Tests.*

Number of cases.	Dilution employed.	Nature of reaction.
28	1 in 10.	No reaction.
7	1 in 10, 1 in 20, 1 in 50. In one instance a dilution of 1 in 100 was also employed.	Well-marked and diffuse agglutination within a period of one hour. The reaction always commenced immediately with the weaker dilutions.
5	1 in 10, 1 in 20, 1 in 50.	Similar to the above, except that with dilutions of 1 in 50 only a slight reaction occurred.
4	1 in 10, 1 in 20.	Similar to the above results, except that no reaction was obtained with dilutions of 1 in 50.
2	1 in 10, 1 in 20.	Similar to the above but the reaction very slight.
2	1 in 10.	Some agglutination was obtained with this dilution but not with any greater dilution.

A Lecture

ON

SHIFTING DULNESS AND ITS IMPORTANCE IN CONNEXION WITH SURGICAL DISEASES.

Delivered before the Hunterian Society on Jan. 11th, 1905,

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GENTLEMEN,—Two years ago I saw a man, 59 years of age, who had had obscure pains on the left side for three months before he was seized with sudden symptoms—not signs—of left pleurisy. There was, however, some dulness at the left base which extended round into the axilla, but a stomach note could be obtained above this dulness as high as the fifth rib. So convinced were his medical advisers that there was a pleural effusion that an aspirator needle was inserted into the dull area below the angle of the scapula on two occasions but without result. A notable feature of the case was the presence of persistent sulphuretted hydrogen eructations ever since the onset of the acute symptoms. I pointed out when I saw him that the extent of the dulness was much diminished by placing the patient upon the right side and still more by making him assume the knee-elbow position, and I argued that this fact suggested, if it did not prove, that the dull body was *beneath* and not *above* the diaphragm. For I have no hesitation in stating that dulness in the back which shifts on placing the patient on his face or upon the opposite side usually means that the pleura is healthy and that the cause of the dulness is subdiaphragmatic. This conclusion is the result of observation and experience; it is of great practical importance and if true should be impressed upon all students. It is directly opposed to the teaching of my youth, and although no doubt the fact must be familiar to many physicians I have reason to believe that it is still generally taught that moveable dulness in the back usually indicates the presence of fluid in the pleura. When a man gets into practice it is as hard to unlearn such teaching as to rid himself of some of the incredible beliefs which are instilled into him in childhood. Every case of fluid in the chest in which the dulness does not shift he looks upon as an exception and does not notice that he comes across nothing except exceptions.

My attention was first directed to this subject by such cases as the following. I was once asked to tap the chest of a young woman who was the subject of pulmonary tuberculosis and had a copious purulent expectoration. She had a typically phthinoid chest, with long perpendicular lower ribs reaching down, as is often the case, almost, if not quite, as far as the iliac crests and, as is also very common, expanding badly, especially on the side most affected, which happened to be the right. The result was that, as always occurs in such cases, the liver dulness appeared to be abnormally high. It was indeed abnormally high behind because she did not completely expand her lung. But the level of the dulness could be made to descend by taking a deep inspiration or leaning very far forward. It was, in fact, nothing more than liver dulness, as exploration with an aspirator at once proved. I think this is an important matter, for I believe that the presence of fluid is often diagnosed in such cases when it does not exist because there is absence of breath sounds and absence of vocal fremitus and resonance over the dull area. The fact of the dulness being moveable is thought to confirm the diagnosis, whereas it ought really to convince the observer that fluid is not present. The mistake arises from failing to appreciate three things: (1) that when the chest is a very long and narrow one the number of inches that the liver dulness measures in the back is larger than in a normal chest; (2) that the amount of liver dulness is always diminished behind when the patient is laid on the face or put in the knee-elbow position if there be no pleural adhesions; and (3) that in cases of inflammatory effusions into the chest the amount of movement of the dulness on changing the position of the body is so small as to be almost a negligible quantity.

To return to the case which forms my text I ventured to diagnose the case as originating in some disease of the stomach and taking into account the temperature, left shoulder pain, and offensive eructations suggested a subdiaphragmatic abscess resulting from the rupture of a simple or malignant gastric ulcer. I accordingly made an oblique incision through the abdominal wall parallel with the lower margin of the chest wall opposite the cartilage of the ninth and tenth ribs, and having ascertained that there were many adhesions about the stomach and felt nodules which I took to be those of carcinoma I closed this opening and made another higher up and further back through the origin of the diaphragm by removing a portion of rib, passed my finger amongst the adhesions between the posterior surface of the stomach and the diaphragm, but failed to find the abscess I had suspected. The mass producing the moveable dulness in the back was, in fact, all solid. The patient improved remarkably after this operation, lost his offensive eructations, again took his food and digested it, and put on weight. So much so that for a time we thought the diagnosis must have been wrong. It is clear, however, that this improvement was only due to the careful dieting whilst he was under our immediate care, for after many months a relapse occurred. Feeling, however, that there was some doubt about the nature of the case I felt justified in repeating the operation, and this time I removed some nodules which were submitted to microscopical examination and proved to consist of spindle-celled sarcoma. Again a certain amount of improvement followed the operation but it was only temporary. The injection of Coley's fluid seemed justifiable in the circumstances, but, as has always happened in the cases in which I have tried it, no benefit followed and the case ultimately terminated fatally.

Another good illustrative case is one previously reported that occurred whilst I was surgeon to the Brompton Hospital. The careful resident medical officer told me that there was a case of empyema to open, and I daresay, though I cannot be sure, it had been seen by one of the physicians. He said that he had drawn off some stinking pus. I thought this was enough to justify my having the patient anæsthetised without examining her myself (not that I suppose I should have come to any other conclusion). On inserting the aspirator needle some odourless clear fluid was drawn off. It was clear that on the previous occasion the needle had passed through the clear fluid which was a pleural effusion into the stinking pus beyond, wherever it might be. I did not go further that day and on questioning the patient afterwards there seemed to be good grounds for supposing the case to be one of gastric ulcer rupturing behind and giving rise to a chronic subdiaphragmatic abscess. An exactly similar operation to that above described was performed; the finger passed readily along the anterior border of the spleen into the abscess cavity which was successfully

drained and the patient made a good recovery. The bearing of all this upon the diagnosis and treatment of pathological conditions above and below the diaphragm is of the utmost importance.

The points I wish to emphasise may be summed up thus: (1) the dulness resulting from a localised empyema if there be no gas in the cavity does not shift at all; (2) that the dulness resulting from a serous pleural effusion shifts very little, if at all; and (3) that the presence of pleural adhesions limits or prevents the shifting of the dulness caused by solids or fluids below the diaphragm.

In cases of abscess of the liver the organ is generally enlarged and the elevation of the upper border of the dulness either in front or behind or both, is one of the signs we naturally look out for. The seat of election for opening a hepatic abscess is in the mid-axillary line below the pleura, through the origin of the diaphragm. But this always involves the risk of injuring the pleura, which should certainly be avoided if possible, for although it may sometimes be a simple matter to close the opening such is not always the case and even if it be so the operation is thereby prolonged. If the introduction of air into the pleura gives rise to cough the difficulty of the operation and the danger to the patient are much increased and in any case there is a risk of starting an empyema of the worst description—namely, one in which the healthy lung becomes completely collapsed, leaving a huge cavity from which septic absorption will take place and one from which recovery can hardly be secured, if this danger be overcome, except as the result of extensive thoracoplasties.

Fortunately, abscesses in the upper part of the liver often cause attacks of dry pleurisy and so I always make a routine practice of not only listening for pleural friction but also of observing whether the level of the hepatic dulness descends when the patient is placed upon the left side or takes a deep breath. If it does not do so I feel some degree of confidence that pleural adhesions will be found and approach the operation with less fear of producing a pneumothorax. But even then it is better to try to see the lower margin of the pleura and if it be visible carefully to turn it up out of the way. This is of still more importance when the abscess is pointing behind, but unfortunately the results of observation are not so trustworthy as the liver does not always fall away so much or, more probably perhaps, the lung is generally less capable of expansion and it must not therefore be assumed that the pleura is obliterated if the dulness does not shift much when the patient is laid on his face or put into the knee-elbow position. Moreover, in the back it is impossible to get below the pleura and to turn it up as one can do in the side. These observations should be repeated when the patient is under the anæsthetic for reasons which will be stated later. It will not be forgotten that, if the liver be painful or tender, weak breathing will almost certainly be found at the right base, so that must not be taken as an argument in favour of the presence of pleurisy.

With such thoughts in mind it became important to determine how much the dulness or resonance corresponding to internal parts varies during health. For this purpose it was necessary to examine the subject standing and recumbent on the back or the side from above and from below. Accordingly I had made a high table with a net top, so that I could stand underneath and examine the under surface of the body in any desired position of recumbency. Before proceeding to give the results of these observations a word must be said upon a very simple but unexpected fallacy. It was first pointed out to me by Dr. J. Mitchell Bruce but one could hardly fail to detect it during investigations of this kind. If the ribs be marked out while the model is standing upright and then he be made to assume the position either of dorsal or ventral decumbency it will be found that the marks no longer correspond to the ribs over which they were placed but are all half an inch or more, usually three-quarters of an inch, too high and if the arms are raised above the head the amount of elevation is still greater. If this be not taken into account and a line be drawn upon the skin to mark the upper border of the liver dulness and then the patient be put either on his back or in the knee-elbow position, even if no shifting of the dulness with regard to the ribs have occurred, it will appear as though its upper limit were three-quarters of an inch lower than before. I cannot here avoid a short digression. Sculptors and artists should note that the male nipple, which, by the way, is usually just below, not on, the fourth rib in the recumbent posture, is usually over the fifth rib in the erect posture and the elevation of one arm raises the nipple above that of the opposite side. Raising the arm not only raises the skin but makes it much less moveable, showing that the method of testing the mobility of the breast in diagnosing tumours of that organ taught by many surgeons and learned by many more students is utterly fallacious. The only trustworthy plan is to estimate its mobility without moving the arm when the pectoralis major is relaxed and when it is contracted.

I may add that the mobility of the skin of the limbs varies immensely as the various joints are flexed or extended. This is easily shown by grasping the skin of the front of the forearm and moving it upwards and downwards whilst the elbow is bent and then trying to do the same after straightening the joint. It will be found that in the latter position hardly any movement is possible, while in the former it is very free. The practice in treating wounds with destruction of tissue in this situation is to flex the elbow in order to relax the muscles. In many cases the relaxation of the skin is quite as important a consideration. The marks made on the skin in measuring the limbs may shift considerably when the position of the joints is altered. It might be supposed that the shifting of the marks upon the chest depended upon an alteration in the curves of the spine and the consequent position of the ribs. It is not denied that the spine may be slightly straightened out in a young person and the ribs in consequence somewhat opened out like the parts of a fan. The height of people under middle age varies from a quarter to three-quarters of an inch in the recumbent and the erect positions, the difference depending on the straightening out of the normal curves of the spine. This undoing of the dorsal curve of the spine would not, however, cause a uniform shifting upwards of all the marks and I have no doubt that it is the actual dragging upwards of the skin that accounts for the phenomenon.

Another cause of moveable dulness and of possible confusion is the well-known fact that the pulmonary resonance descends when the lungs are inflated. But I doubt if sufficient attention has been paid to it and one point of great physiological interest becomes apparent from studying it carefully. Anatomists know pretty accurately the lower limit of the pleura, and surgeons must bear in mind that it usually reaches to within two inches (sometimes less) of the costal margin in the mid-axillary line, while it generally goes below the twelfth rib near the spine. Physiologists have stated, and I believe still hold, that the lowest part of the pleura—the so-called pleural sinus—is never occupied by the lung even in full inspiration. This is not the fact, for as I have before pointed out in very thin people the lower margin of the lung may often be *seen* through the chest wall moving up and down and during a deep inspiration may be actually observed to go to the very bottom of the pleural sinus. And percussion and auscultation verify the observation. The pulmonary resonance on deep inspiration in a young adult descends from one and a half to two inches in the mid-axillary line and in many cases the liver dulness in the back, especially in the knee-elbow position, may be thus made entirely to disappear. We used to say:—

> "Segnius irritant animos demissa per aurem,
> Quam quae sunt oculis subjecta fidelibus."

But here it is not so, the information of both organs of sense is equally striking. This observation impresses upon the mind another fact of which the x rays yield ocular demonstration—namely, that the different parts of the lung move in different directions during respiration. The lower parts move vertically upwards and downwards. But through the screen it is possible to see that opposite the root of the lung the movement is almost only in a horizontal direction. I do not say that this can be seen in healthy lungs when looking at the shadow on the screen but it is easily made out when there are patches of opacity scattered through the lung. I first saw it when examining a case of supposed foreign body impacted in the lung under the guidance of Dr. J. Mackenzie Davidson. The expansion is, of course, a centrifugal one, the centre being the fixed part of the lung—namely, the root.

Another source of fallacy must here be mentioned which also has considerable practical importance. For all these observations it is necessary to take the superficial and not the deep dulness and this especially in painful conditions is decidedly influenced by the contraction or relaxation of the muscles of the thoracic and abdominal walls. Dr. Ringer used to point out that the amount of dulness, whether in the

chest or abdomen, was diminished on anæsthetising a patient. I have often verified this and have been disappointed at the partial or complete disappearance of superficial dulness in cases of appendicitis and empyema when the patient has been anæsthetised for operation. It is easy to understand how this may be caused in such a condition as an abscess or mass of lymph around an inflamed appendix. The tightly contracted muscles, nature's involuntary protection against external injury, even such slight injury as percussion, squeeze the unaffected coils of intestine away from the space between the abdominal walls and the painful lump, but when they are relaxed the intestines slip in again and the previously dull area becomes resonant. Consequently upon this the outline of the lump becomes much more easily determinable, but as was pointed out by Dr. W. Moxon the risks of manipulation are increased. He told of a case of appendicular abscess which came unscathed through the ordinary investigations of a hospital ward but was ruptured by manipulation with what was considered to be due care when the patient was under the influence of an anæsthetic. It is not so easy to explain the mechanics of this phenomenon in the chest, and, indeed, it is by no means so frequently observed. It must depend upon a more free movement of the chest wall when the act of breathing becomes less painful or less suggestive of the possibility of pain, a movement which causes greater expansion of the lung. This will increase the resonance of the already resonant part and may, as in the case of the appendix abscess, drive the lung between the dull mass (say the liver or spleen covered by the diaphragm) and the chest wall which were previously in contact.

The practical importance of these facts is great. They show that a dulness which disappears under an anæsthetic must not be neglected, but it must be suspected that adhesions do not extend so far as they might before the administration of the anæsthetic be supposed to do. Thus, if the case be one of appendicitis the cautious surgeon will not open the abdomen immediately over the swelling but will separate the peritoneum from the fascia transversalis for some distance backward and thus hope to open the abscess without interfering with the part of the peritoneum where there are no adhesions. In the case of a suspected empyema in which the dulness disappears under the anæsthetic he will probably find that it is one of pyopneumothorax and that it is the change of position of the patient which has brought the gas which previously occupied the upper part of the cavity into the field of operation and he must not forget that a small amount of gas may be responsible for an extensive area of resonance.

I will now make another digression. In some cases of ascites percussion gives a more extensive area of dulness when the finger is pressed lightly on the abdomen than when it is pressed more firmly. This means that a thin layer of fluid intervenes between the hollow viscera and the abdominal wall. Firm pressure with the finger forces the fluid away and the percussion is then made upon the subjacent coils of intestine. No one who has ever tapped an ascitic abdomen doubts that this is generally the case, although in a general way it may be stated that the intestines are floated up by the fluid. If the amount of fluid is large there comes a time when this floating process is no longer possible because the intestines are anchored to the spine by the mesentery. A somewhat similar phenomenon may occasionally be noticed where the liver is large and some coils of intestine have passed on to its anterior surface. The percussion note over such a liver is resonant unless the finger be firmly pressed down upon it, when the intestines are displaced and the note becomes dull. This suggests the presence of free gas in the peritoneal cavity and if there be free gas in the peritoneal cavity and a large liver of course the same phenomenon would be observed. The disappearance of the liver dulness in cases of abdominal distension from intestinal obstruction depends upon a different cause —namely, the tilting upwards of the liver so that its anterior border comes to look forward and presents too narrow a surface to yield a dull note on percussion. For this reason we have come to recognise that the disappearance of the liver dulness is an untrustworthy sign of gas in the peritoneal cavity. If it be due to rotation upwards of the liver there will still be a dull area laterally. If it depends upon gas in the peritoneal cavity this region will probably be resonant. But there is no certainty about this, as masses of lymph and collections of fluid may well give rise to dulness anywhere.

I used often to be puzzled by the different results obtained by different percussors but the different degree of pressure bestowed by a finger on which percussion is made no doubt accounts for it in part. It was also a matter of surprise that some observers could hear murmurs which were inaudible to others until I found out for myself what Dr. Ringer had previously described—namely, that pressure with the stethoscope modifies the pitch of many, if not all, murmurs and makes some entirely disappear. My own observations were first made upon those strange musical murmurs that are sometimes heard over empyemas at a long distance from the heart. Many of them are made much more high-pitched by pressure and some entirely disappear. Dr. Ringer's observations were made on ordinary heart murmurs. A heavy-headed man with a wooden stethoscope may hear nothing of a murmur which is quite startling to a light-handed man with a binaural stethoscope. One of the most striking cases of the sort was that of a right-sided empyema; the musical murmur was heard at the upper level of the dulness in front at about the level of the fourth rib and curiously enough it persisted for a long time after the cavity had closed. Another very remarkable one occupied an extensive triangular space with the apex at the spine over an enormously vascular sarcoma of the liver. The causation of these queer murmurs is, I believe, unexplained and it is equally unexplained why pressure with the stethoscope should affect them in this strange way. They are somehow produced in the thoracic wall but I have never been able to find any pathological condition to account for them, though I have sometimes had the opportunity of passing my finger through the incision I had made on to the inner surface of the chest wall at a spot where such a murmur had been heard and sometimes have proved by a post-mortem examination that no naked-eye changes were observable.

Let us now turn to the examination of a normal person. The first thing that strikes one in examining a healthy young man or boy standing up is that there is usually remarkably little resonance in the abdomen. It is often impossible to percuss out the lower border of the liver with anything like certainty, the lower part of the abdomen is nearly always more or less dull, and the same may be said of the left flank. There is nearly always tympanitic resonance over the cæcum and often some over the stomach, the latter extending up over the left costal margin into the axilla, reaching as high as the sixth rib in the nipple line, but that part of the abdominal wall which corresponds to the anterior wall of the stomach is very often dull and sometimes the only resonance in front is a transverse band corresponding to the transverse colon. If the patient be placed on his face and examined from below the area of dulness is still larger, it may, indeed, be quite dull, or there may be only a faint approach to resonance at the cæcum and transverse colon. If he be placed on his back the dulness is diminished, the lower border of the liver can nearly always be determined, the anterior surface of the stomach becomes resonant, while the resonance in the left axilla is replaced by dulness, and more or less resonance is obtainable over the small intestines. These phenomena evidently depend upon the facts that in a healthy young person with a good digestion there is not much gas in the small intestines and only a moderate amount in the stomach and large intestine. Of this one has ocular demonstration in operating on properly prepared patients for, say, appendicectomy or gastro-enterostomy. The fluid or semi-solid contents gravitate downwards and hence the dulness caused by the lower part of the stomach becomes continuous with that of the liver in the erect posture and even the cæcum and transverse colon may yield a dull note when the patient is placed upon his face. Of course, these observations do not apply to overfed dyspeptic people above middle age who pass for healthy and even in those I am describing the conditions vary enormously from time to time. The moral is that it is useless to attempt to percuss out the solid viscera while the patient is standing upright.

It was long ago observed that in cases of intestinal obstruction with much distension it is impossible to say whether or not there is free fluid in the peritoneal cavity because the flanks may be dull when the patient is lying on the back but resonant in the uppermost flank when he is placed upon his side. This has been explained either by supposing that if it be a large intestine obstruction the colon is distended partly by gas and partly by fluid contents and the fluid gravitates to the lowest part, or in cases of small

intestine obstruction that coils of small intestine loaded with fluid contents sag over and replace those which are distended with gas.

It is at first rather surprising to find that the upper limit of the dull area corresponding to the liver and the heart in front is almost exactly the same in the erect position and in dorsal decumbency; in other words, the liver does not fall away much from the front when the patient stands up. When he lies on the face and the dulness is percussed from below it is found to be only a very little higher, the change being not nearly so great as when the dulness in the back is percussed in the erect and in the knee-elbow position. This, however, becomes more easy to understand when we remember that the anterior part of the diaphragm is directed much more horizontally from its origin than the posterior which is practically perpendicular for a considerable distance, as is shown in vertical sagittal sections of the trunk; in other words, the pleural sinus hardly exists in front, whereas behind there is a considerable space only occupied by the lung during deep inspiration in the erect posture but which is easily opened up for the admission of the lung by the falling away of the liver when the patient lies on his face or assumes the knee-elbow position. When he lies on his back and is percussed from below both flanks are usually quite dull, whereas, as has been said, when he is placed in the knee-elbow position or lying on his face both flanks are usually more or less resonant and it will not be forgotten there is often very little liver dulness and sometimes none at all.

Some normal individuals experience discomfort when lying on the left side because they feel the heart beating against a part of the chest with which it is not in contact in the erect posture or in dorsal or right decumbency. That the heart does sag over to the left in left decumbency may be ascertained in thin persons by the displacement of the maximum apex beat, and I have satisfied myself that the dulness also extends further to the left; but it is not easy to estimate the exact amount in the particular individuals I examined. The dulness caused by the spleen and the left kidney in the left side of the back are greatest in dorsal decumbency and least in ventral decumbency or the knee-elbow position. From what has been said it will be seen that dulness which shifts with changes in position is the normal condition at both bases behind and is no proof of the existence of fluid in the pleura.

I do not know that there are any more practical deductions to be drawn from these observations than those which have been already referred to. I therefore now pass on to some more pathological conditions. I have already dealt with hydrothorax and empyema by stating that in the former the dulness shifts at all events much less than was formerly supposed if it shifts at all and in the latter it practically never shifts when the collection occupies the general pleural cavity and certainly never shifts at all when the empyema is localised. It is quite otherwise in cases of hydropneumothorax and pyopneumothorax. Here the fluid moves about quite freely like water in a half-filled bottle and the dulness shifts in consequence of the movement when the position of the body is changed. The only practical point that arises here is that in aspirating in either of these conditions it is important to place the patient in such a position that it is certain that the needle will pass into the fluid and not to push it in too far lest it should pass through the fluid into the gas beyond. If proper precautions have been taken as to the position of the patient and still no fluid comes into the bottle the needle should be slowly withdrawn and should not be removed suddenly. This process of gradual withdrawal must be continued until the end of the operation if the last few drops of fluid are to be removed. It may be added that there is more hope of removal of all the fluid if air be present than if it be a case of simple pleurisy with effusion or empyema.

Everyone knows that the dulness in a case of ascites does not by any means always assume the horse-shoe shape which is described as typical. I have not had the opportunity since I began to prepare this lecture of examining many cases but I present to you diagrams of a few. In each case I have shown the modifications which occurred when the patients were placed in dorsal or lateral decumbency, but I did not venture to place any of these unwieldy people on my high couch. It will be seen that none of them corresponded to the normal type and that the most common deviation from it was that there was resonance in the right inguinal region. This resonance must, of course, be caused by the cæcum, not I suppose because it is the most securely anchored part of the intestine, for that if anything might be expected to favour its submergence beneath the fluid; it must, I think, depend upon the fact that this part of the bowel is generally the most distended with gas. The line of the transverse colon comes out in all and the stomach may cause a prolongation of the central resonance into the left hypochondrium.

It is not my purpose, even if I had made sufficient observation to enable me to do so, to say what is the most usual shape for the dulness of a simple ascites to assume but I desire to point out that a departure from the so-called typical horse-shoe shape does not prove that the fluid is loculated or necessarily suggest the presence of peritoneal adhesions. The real test is whether the dulness shifts on changing the position of the body or not; in the case of general ascites this takes place with great rapidity, in that of localised collections of fluid not at all or very slowly. It is, of course, presupposed that the existence of fluid has been proved, say, by the presence of the sense of fluctuation. If called upon to tap an ascitic abdomen in which the dulness is irregular and does not shift it is unwise to employ the simple trocar or an aspirator because there is nothing to indicate the thickness of the layer of fluid which causes the dull note. The right plan is to make a small incision through the abdominal wall, as may be painlessly done with the help of local anæsthesia, and to close the opening with a stitch when the fluid has escaped.

Another condition in which the dulness is not so marked a feature as the resonance but in which it shifts with great rapidity is that in which a perforation of a gastric or intestinal ulcer has led to the accumulation of gas and fluid in the peritoneal cavity. Nowadays, these cases are usually diagnosed early and submitted to an operation, or if not the patient dies before the characteristic signs have developed. But sometimes they become subacute and a huge cavity is formed containing pus and gas, of which the posterior wall is formed by the abdominal viscera all matted together by lymph and the anterior wall by the abdominal and thoracic parietes. This condition, which has been called subdiaphragmatic pneumothorax, may give rise to difficulties in diagnosis because the accumulation of gas may press the diaphragm upwards so high that the physical signs in the chest are typically those of pneumothorax—absence of breath sound, bell note, &c. I have seen the tympanitic note extend as high as the second rib in front. A mistake should not, however, be possible because the tympanitic note and bell sound are continuous and the same over the whole extent of the cavity and the liver dulness has absolutely disappeared. But an investigation of the effect of turning the patient on the side should not be omitted. It may always be done without risk and it will be found that a part of the tympanitic area instantly becomes dull, the amount depending upon the quantity of pus that has accumulated. I have observed in one case lately, a ruptured typhoid ulcer, that vocal fremitus was to be felt very distinctly all over the abdomen and even over the iliac bones. The patient was a thin man with a deep voice. I do not know whether this is a characteristic sign but it will be interesting to see if it is met with in other cases.

This leads up to the subject of localised peritoneal abscesses containing gas which so commonly result from appendicitis and which unfortunately often lead to postponement of the operation. The presence of gas makes it impossible to feel a lump and if a swelling has been present before any considerable amount of gas has accumulated its disappearance may be welcomed as the sign of an improvement which does not exist. I remember many years ago, before we were so well acquainted with this disease, a stout old lady in whom we watched the appearance and disappearance of the lump and hoped, in spite of the persistence of fever, that the mischief was subsiding, whereas really the abscess was tracking up under the diaphragm which it ultimately perforated and this, curiously enough, was followed by acute tuberculosis of the right lung. I do not wish to encourage you to sit the patient up and to examine his back in such circumstances, because there are certain, though perhaps slight, risks in doing so, but it is most probable that in the sitting posture the right lumbar region will become markedly tympanitic while the right iliac fossa will become dull, though in the recumbent position the iliac fossa may be resonant and the flank dull.

A PECULIAR FORM OF CHRONIC HYPERPLASIA OF THE MUCOUS MEMBRANES OF THE UPPER RESPIRATORY TRACT.

BY SIR FELIX SEMON, C.V.O., M.D. BERLIN, F.R.C.P. LOND.,
PHYSICIAN-EXTRAORDINARY TO HIS MAJESTY THE KING.

VERY many years ago I observed a curious case of chronic hyperplasia of the mucous membranes of the pharynx and larynx of which unfortunately, in spite of much searching, I have not been able to find my notes. But the impression left by it upon my mind was such that I can even now, I think, faithfully remember its salient features. It was the case of a lady, about 30 years of age, the wife of a medical practitioner. She consulted me on account of general discomfort in her throat and of considerable difficulty in swallowing, which had, when I saw her, already lasted for many months, whilst her general health had not suffered. The aspect of her pharynx and larynx was such as I had never seen before. The whole of the soft palate, including the arches and the uvula, the posterior wall of the pharynx, the epiglottis, the aryteno-epiglottic folds, and the arytenoid cartilages were uniformly thickened and presented a peculiar yellowish, shiny, somewhat gelatinous-looking appearance, which reminded one of nothing so much as of the aspect of a lardaceous kidney. The infiltration was markedly smooth, the mobility of the arytenoid cartilages was unimpaired but that of the soft palate seemed to be rather slack, a circumstance easily enough accounted for by the general and considerable infiltration. I first of all thought that I had to do with a case of tuberculous pseudo-œdematous infiltration, but there were no other signs of tuberculosis anywhere and the condition showed no tendency towards a destructive metamorphosis. I kept the patient under periodical observation for nearly two years, during which no method of treatment was of any avail. I was therefore not a little surprised when about two years afterwards she again called on me to show me that there had been a return to perfectly normal conditions. There was as little obvious cause for restoration to health as there had been for the orginal affection.

The second case occurred in a woman, aged about 40 years, whom I only saw once. In that case the conditions were similar to those observed in the first but much less developed.

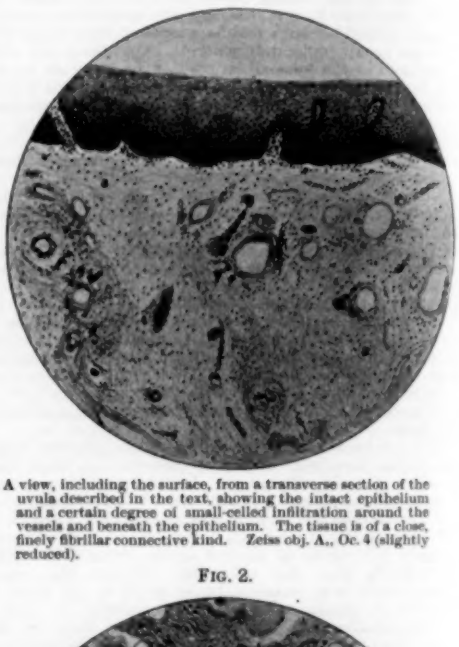
My third case was shown on Nov. 7th, 1902, to the Laryngological Society of London and has been described in its Transactions as follows:—

> The patient was first seen on July 12th of the present year with a history of long-standing throat trouble and occasional difficulty in swallowing. She had been seen by various medical men, all of whom, according to her statements, had considered the affection as rather serious, but had apparently not known what to make of it.
>
> On examination an almost lardaceous condition of the uvula was seen—that was to say, the uvula and the adjacent parts of the soft palate were considerably infiltrated and at the same time quite smooth to sight and touch, whilst the most characteristic point consisted in the peculiar yellowish colour of the affected parts, reminding one of nothing so much as of the appearance of a kidney which had undergone lardaceous degeneration. In the larynx there was a similar condition of the mucous membrane over the right arytenoid cartilage. The left looked slightly more œdematous, reminding one of the ordinary pseudo-œdematous infiltration of tuberculosis. Still, although more transparent than its fellow it had a similar yellow colour to the right arytenoid.
>
> There was no evidence of kidney trouble but on examination of the legs there was slight pitting on pressure, particularly over the external malleoli.
>
> Her voice was normal. There was no pain and no difficulty in breathing. The organs of the chest were normal.
>
> The urine was examined later and found perfectly normal. On July 14th, 1902, the local condition of both pharynx and larynx was much better than three days previously. The patient was given an arsenic and iron mixture.
>
> On July 29th, 1902, the swelling both of the uvula and of the right arytenoid cartilage was much more marked than on the occasion of her last visit and the colour was much more that characteristic lardaceous yellow which had been observed on the occasion of the first examination. The condition apparently varied from day to day.
>
> On Nov. 6th, 1902, the patient was found to have been distinctly better since last seen and had only occasionally had slight difficulty in swallowing. The uvula as well as the right arytenoid cartilage now looked much less infiltrated than they were in July.

I invited discussion on these three cases and observed that I was not aware that the condition had ever been described. The case excited a good deal of interest as none of those present had ever seen anything similar. It was suggested that a piece of the uvula should be removed for microscopic examination, and the patient having consented to this, I amputated a part of the uvula and submitted it to Mr. S. G. Shattock, pathological curator of the Royal College of Surgeons of England, who has kindly favoured me with a full description of the histological characteristics of the infiltration. Before giving this in his own words I may state that the patient shortly after the little operation left London and that I have not since heard from her. The following is Mr. Shattock's description:—

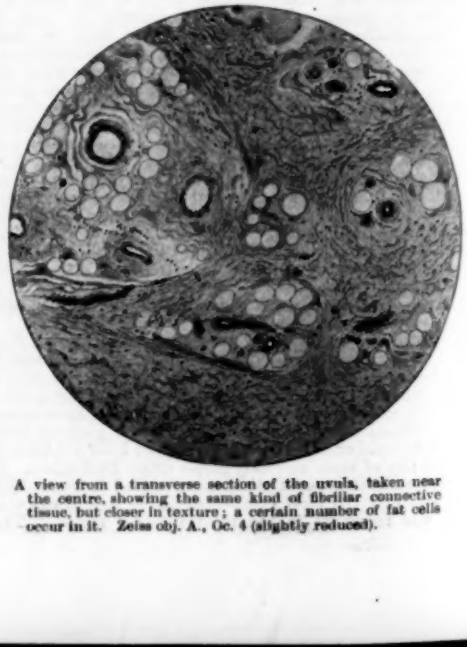
> The uvula is generally enlarged, its cross section having a diameter of 9 m.m. and its length being correspondingly increased. The investing epithelium is everywhere intact and normal; between its elements a few polymorphonuclear leucocytes have wandered from the subjacent tissue. The increase in size is due to a diffuse formation of finely fibrillar connective tissue, in the central part of which there occur small groups of fat cells. The proper corpuscles of the new connective tissue have the usual characters and are moderate in number. The uniformity of the microscopic picture is only broken

FIG. 1.



A view, including the surface, from a transverse section of the uvula described in the text, showing the intact epithelium and a certain degree of small-celled infiltration around the vessels and beneath the epithelium. The tissue is of a close, finely fibrillar connective kind. Zeiss obj. A., Oc. 4 (slightly reduced).

FIG. 2.



A view from a transverse section of the uvula, taken near the centre, showing the same kind of fibrillar connective tissue, but closer in texture; a certain number of fat cells occur in it. Zeiss obj. A., Oc. 4 (slightly reduced).

by denser collections of cells which bear an obvious relation to the smaller blood-vessels and are almost confined to the periphery of the cross section, though here and there similar collections occur in the more central parts. The cells composing the clusters consist of lymphocytes and intermingled plasma cells (Unna). Neither mast cells nor eosinophile leucocytes are present in the section. Unna's acid orcein reveals a mesh of fine elastic fibrils pervading the connective tissue. The arterioles are everywhere normal. At the periphery of the sections a short way beneath the epithelium a certain number of the capillaries which lie in the small-cell infiltration are plugged as a result of endothelial proliferation. No micro-organisms are demonstrated by Gram's or other methods. This is equally the case when the decolourising action of alcohol is evaded after staining with carbol fuchsin, by the use of glycerine as a mounting medium. (See Figs. 1 and 2.)

The examination shows no more than the anatomical character of the condition; it does not demonstrate its cause. The lesion presents none of the structural features of tuberculosis, syphilis, or rhino-scleroma. The overgrowth of connective tissue has no relationship with a neuro-fibromatous pachydermia since the nerves are not involved in the general fibromatosis. The enlargement, again, is not due to a dilatation of lymph spaces as in a lymphangiomatous or lymphangiectatic lesion. Nor does it bear relegating to the group of angioneurotic œdemas observed in the skin since the lesion was not sudden either in its onset or at any time in its rate of extension. The complete absence of chronic arterial change further removes any relationship between the disease and erythromelalgia, seeing that in the cases of the last-named condition which have been histologically examined local arterial disease has been observed.

The histological changes approach most nearly to those met with in hyperplastic rhinitis in its later, or what has been called its secondary stage; in this are encountered the same overgrowth of firm fibrillar connective tissue and similar small-celled infiltration around the lesser vessels.

At the time when I demonstrated these cases I considered, as already stated, my observations as unique. Shortly afterwards, however, I found that 18 months previously Dr. A. Brown Kelly of Glasgow had given a very excellent description of a similar case in THE LANCET of April 6th, 1901, p. 995, under the title "Sclerotic Hyperplasia of the Pharynx and Naso-pharynx." In his case the patient was a man, aged 34 years, who for about eight years had been subject to slight attacks of sore-throat. Three years before Dr. Brown Kelly saw him he began to feel something in the pharynx which he wished to expel. These sensations had gradually increased. Latterly severe choking fits had been excited and nasal respiration had been partially obstructed for a year. On examination his pharynx presented a very striking appearance. The uvula was very large and hung like a curtain concealing the posterior pharyngeal wall. Its length was over one and a quarter inches, its width at the base one inch, and in thickness it was also greatly increased. The shape and surface were in no way abnormal. The colour, however, was pale and the consistency fibrous, so that the whole formed an unyielding mass. The posterior wall of the pharynx presented a peculiar aspect. A narrow tract of abnormal tissue ran to the middle of the posterior wall. On each side of this, extending outwards to the lateral wall and incorporating with it a part of the right and the whole of the left faucial pillar, was a broad prominent band which was thickened in its outer part. These bands passed upwards into the naso-pharynx and downwards to the upper end of the œsophagus. Their consistency was that of muscle and they could be pushed *en masse* towards the middle line. Their colour was a uniform grey and their surface was perfectly smooth. The appearance of the naso-pharynx revealed marked changes. The lumen of the cavity was reduced so as barely to admit the forefinger. Only a small part of the septum and middle turbinates could be seen; the coronal arches and Eustachian orifices were concealed. The thickenings in the naso-pharynx, like those in the pharynx, were smooth, grey, and firm. The bands on the posterior wall of the pharynx were seen to pass downwards and to overlap the arytenoids, the sides of the epiglottis being in contact with the bands. Within the next two years no change was noted in the conditions described with one exception. The patient in October, 1900, complained of sore-throat. When Dr. Brown Kelly saw him on the sixth day of the attack the pain, which was confined to the left side, had begun to subside. There was then great swelling of the left band, especially about the level of the epiglottis. Its surface was smooth and pale. Three weeks later the œdema had diminished considerably so that a view of the larynx was obtainable. It was then found that the movements of the left arytenoid during phonation produced a clicking sound owing to its coming into contact with the overlapping tissues. Five months after the acute attack the left band continued thicker than the right and the clicking sound was still heard.

Dr. Brown Kelly, shortly after the patient came under his observation, removed the uvula by means of the galvano-caustic snare, since which time the choking attacks ceased and the patient considered himself practically cured. A piece of the removed uvula was preserved in absolute alcohol and a very full account of its minute structures is given in the paper by Dr. A. R. Ferguson, senior assistant to the professor of pathology of the University of Glasgow. (It ought to be mentioned that the macroscopic and microscopic conditions observed are very fully illustrated in Dr. Brown Kelly's paper.) The report of the pathologist, for the details of which those interested must be referred to the original, is thus summed up in his own words:—

The whole condition may be briefly summarised, from the point of view of its morbid histology, as a chronic hyperplasia of the interstitial tissue of the parts involved, of apparently progressive character, with no tendency towards degeneration and (so far as can be demonstrated) unassociated with the presence of any specific micro-organism.

In the concluding part of his paper Dr. Brown Kelly exhaustively discusses the question of the nature of the affection from a clinical point of view and excludes rhino-scleroma, tertiary syphilis, and hereditary syphilis. Whilst he is unable to define the disease of which the condition observed by him is a manifestation, he points out that an analogous condition probably exists in subglottic hypertrophic laryngitis and admits that in the hyperplastic variety of hereditary syphilis the histological appearances closely resemble those of the affection described by him under the name of "sclerotic hyperplasia of the pharynx and naso-pharynx."

An apparently similar case was shown under the name of "Chronic Œdema of the Larynx (?) Amyloid" to the Laryngological Society of London on Feb. 6th, 1903, by Dr. J. Dundas Grant, in which the larynx was the seat of a pale, somewhat solid, œdema of the epiglottis, and both aryepiglottic folds, especially the left, and the palate and pillars of the fauces, especially the left one, were somewhat thickened. Inasmuch, however, as Dr. Dundas Grant on Feb. 5th, 1904, showed the patient again, who meanwhile had greatly improved under antispecific treatment, he himself admitted that the case had probably been one of gummatous infiltration, although no evidence either direct or indirect had been available. In the subsequent discussion, in which Dr. Brown Kelly took part, the interesting fact was elicited that on the last occasion on which that gentleman had seen his patient he had noticed that there was a tendency for the whole condition to grow less.

A case of œdematous thickening of the larynx and palate in a boy, shown by Dr. H. Lambert Lack on March 6th, 1903, before the Laryngological Society of London, which presented some clinical resemblances to the cases so far described, probably does not belong to the category under discussion as sections of the enlarged epiglottis which was removed showed numerous roundish nodules deep under the mucous membrane which strongly resembled, but were not characteristic of, tubercle.

Another case as to which it is extremely doubtful whether it is of the same nature as those described by Dr. Brown Kelly and myself was shown by Dr. A. Logan Turner to the Laryngological Society of London on Jan. 15th, 1904. He described it as an "œdematous infiltration of the uvula, left half of the soft palate, and left lateral wall of the pharynx, infiltration of epiglottis and both arytenoid regions." In that case the onset of the disease was apparently quite sudden. Serious respiratory symptoms developed within three days and on the evening of the third day tracheotomy became necessary. The original diagnosis was acute septic infection of the pharynx and larynx. At that time the uvula and soft palate were œdematous and the epiglottis was markedly swollen and rigid, reddish, and curved back. Both arytenoid regions were swollen and no view could be obtained of the interior of the larynx. On the tenth day the tracheal tube could be removed. Three months later the local appearances were still very similar to those observed at the time of the acute attack with the absence, however, of the acute inflammatory signs. Again, two months later, after administration of antisyphilitic treatment the local condition was very much the same as previously seen but in addition the left lateral wall of the pharynx had become swollen and presented an appearance similar to that of the soft palate. A small piece of tissue was removed from the infiltration on the lateral pharyngeal wall and microscopic sections of this showed no evidence either of tuberculosis or malignancy. "The connective-tissue spaces were œdematous, the blood-vessels (arterial and venous) were much engorged, and there

were areas of small-cell infiltration. The appearance suggested somewhat the existence of lymphatic obstruction." In conclusion, Dr. Logan Turner stated that it was impossible to say definitely whether the present condition dated from the acute illness or whether that was merely superimposed upon a chronic infiltration such as at present existed.

In the discussion Dr. P. McBride, who had seen the patient in consultation, observed that it seemed to him that the case must be either specific or some form of infiltration associated with obstruction of the lymphatics the nature of which he was unable to recognise. I observed that I could not agree that this case was very similar to my own and that, as a matter of fact, unless Dr. Logan Turner had mentioned the connexion, the thought of my own cases would have hardly occurred to me. The uvula certainly had a somewhat infiltrated aspect and was yellowish in colour and a similar condition, although in a minor degree, was to be seen on the epiglottis but there were not nearly so much infiltration and peculiar yellowish colour as in my own case. What differentiated this case more particularly from my own was that the infiltration was not nearly so universal. If the explanation of the case lay in its being due to some particular obstruction of the lymphatics, the infiltration should be more general. I was not prepared to give an opinion as to the nature of this case.

Dr. Dundas Grant said that he had under his care a case somewhat resembling this but very chronic in its course. He had shown it to Dr. Hajek, who thought it extremely rare and had only seen one or two cases. In his opinion it was a kind of lymphadenoma which was due in reality to infiltration of small cells. The society was now getting a considerable collection of these cases of what might roughly be called "chronic œdema." In one case which he had shown to the society an improvement was taking place under mercurial inunctions and it was probably tertiary syphilis. Other cases which had been reported turned out to be tuberculous. It would be interesting if the after-history of these cases could be brought before them.

In reply Dr. Logan Turner said that he would certainly keep the patient under observation and if any definite diagnosis was arrived at he would let the society know. The microscopic sections revealed practically nothing. The connective-tissue spaces were somewhat loose and œdematous, the blood-vessels were a little thickened here and there, and round about them there was a certain amount of small cell infiltration, but there was nothing very definite as regards the question of tuberculosis. Looking at the laryngeal condition the pale œdematous infiltration of the arytenoids was certainly suggestive.

Remarks.—The above list comprises seven cases, which have been shown before, or mentioned at, the London Laryngological Society in the course of the last three sessions as forming a group of their own and constituting a hitherto apparently undescribed form of chronic hyperplasia of the mucous membranes of the naso-pharynx, pharynx, and larynx. From this group, however, I think that the cases of Dr. Dundas Grant, Dr. Lambert Lack, and Dr. Logan Turner must be eliminated, as in all probability, although there was some similarity in the clinical appearances, the cause of the peculiar swelling in these cases was tuberculosis, syphilis, or acute septic infection. Four cases only would therefore remain, Dr. Brown Kelly's and my own three, and as one of the latter was only seen once by me, it is of practically no value for the decision of the nature of these cases. The more important, however, are the three remaining ones: Dr. Brown Kelly's case, my first case, and my third case. The microscopic appearances in Dr. Brown Kelly's case and my own third case are practically identical. It is, indeed, remarkable how much the findings and conclusions of Mr. Shattock's report tally with those of Dr. Ferguson, considering the fact that Mr. Shattock's report was written in ignorance of Dr. Brown Kelly's case and that he only became acquainted through me with Dr. Ferguson's report after he had delivered to me his own description of the microscopic appearances seen in my own case and the conclusions he had derived therefrom. Full and excellent, however, as both these reports are, they unfortunately throw no more light upon the etiology of these curious cases than long-continued clinical observation. All that can be said is that we have to do with a chronic hyperplasia of the tissues involved and not associated, so far as can be judged so far, with the presence of any specific micro-organism. Tuberculosis, syphilis, and rhino-scleroma seem to be quite out of the question in them all.

On the difficult question raised by Dr. Brown Kelly—viz., whether the affection observed by him and me is analogous in nature to subglottic hypertrophic laryngitis—I wish to speak with all possible caution. I will not venture to say more than that the same reason, which induces me to think that the name given by him to the new affection—viz., "sclerotic" hyperplasia—is not happily chosen, combats also against my believing in its identity or analogy with hypertrophic subglottic laryngitis. In all probability Dr. Brown Kelly was led to adopt the term "sclerotic" through the conclusion at which his microscopist arrived—viz., that the condition represented a "chronic hyperplasia of the interstitial tissues of the parts involved of apparently progressive character with no tendency towards degeneration." This characterisation, if correct in every detail, would indeed be analogous to the condition known as hypertrophic subglottic laryngitis, Stoerk's blennorrhœa, or scleroma of the larynx and would quite justify the use of the adjective "sclerotic," which in a medical mind is more or less associated with the conception of a progressive interstitial change incapable of spontaneous or remedial repair.

I hope that I shall not be considered captious if against this view, which assumes the pathology of the new affection to be one of progressive, mostly interstitial, hyperplasia, I urge the all-important fact that in my own first case a spontaneous complete disappearance of the infiltration took place after it had existed for several years and that in Dr. Brown Kelly's own case a change for the better had taken place when last he saw his patient. These facts appear to me so irreconcilable with the idea of the change being of a genuinely sclerotic character that I venture to propose, instead of the expression "sclerotic" hyperplasia, the non-committing name of chronic hyperplasia, which may do service until we have learnt to understand better the nature of the curious affection described in this paper.

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PNEUMONIA WITH INFECTIVE ENDOCARDITIS AND MENINGITIS.

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CASES of pneumonia with endocarditis and meningitis as complications or sequelæ have been often recorded, yet in few of these instances have the symptoms been so manifest as to permit an easy diagnosis during life. The literature of the condition is of comparatively recent date and until Osler, in 1885, by his Goulstonian lectures, proved the unsuspected frequency of ulcerative endocarditis and meningitis, one or both, following pneumonia, the subject had not received much attention. Indeed, Osler[1] states that the committee for collective investigation in its report of 1000 cases of pneumonia mentions infective endocarditis only once. Since then it has been studied by numerous observers and the importance of pneumonia as a causal factor is made evident by Kanthack's statistics in which 14·2 per cent. of all cases of infective endocarditis showed an antecedent pneumonia. The following instance of the double complication has been considered by us sufficiently notable to deserve publication.

A man, aged 40 years, was admitted into Barnhill Parochial Hospital on Feb. 25th, 1902, suffering from pneumonia of the right apex. The date was the fifth day of the disease. There was no delirium and the other organs appeared to be normal. The only conspicuous feature was the occurrence on the fifth and sixth days of sharp pleuritic pain which was controlled by hypodermic injections of morphine. The crisis took place on the ninth day and for three days thereafter the patient was apparently convalescent. On the thirteenth day, however, the temperature, which had not exceeded 99° F. for four days, rose to 102° and the patient became restless. On the succeeding four days the temperature rose and fell daily, the highest reading

[1] Goulstonian Lectures. THE LANCET, March 7th (p. 415), 14th (p. 459), and 21st, 1885 (p. 505).

being 102° and the lowest 98·4°. He slept little, perspired heavily, and complained of pain in the præcordial region. On the eighteenth day the calves of the legs were painful and tender. He cried out when they were pinched even slightly. On the following day he had a rigor and the temperature rose to 103·2°. With the exception of the pain in the legs he was easier on the next two days, the morning temperatures being 100° and the evening ones 103·8° and 104·2° respectively. At this time the first sound of the heart was noticed to be distinctly impure. There was a soft systolic murmur heard only at the apex. The cardiac dulness was normal. He passed a restless night and on the twenty-second day was still restless, with persistent sickness and vomiting and slight delirium. The temperature rose to 105° and he complained of severe headache. Next day the headache was still distressing and he vomited frequently. The pupils reacted to light and in accommodation and there was no optic neuritis. On the following day he was very restless and delirious at intervals. On the twenty-fifth day he had two general convulsive seizures, the delirium was continuous, and he was extremely restless. On the next day his condition was much the same, cough was troublesome, and the bowels were loose. There was a considerable quantity of râles in the lungs and the respirations attained a frequency of 66, whilst the pulse was only 104. He died on the twenty-seventh day of the illness. There was no rash or strabismus at any time.

At the necropsy the upper lobe of the right lung was grey in section, somewhat soft, and showed only a moderate degree of resolution. The pericardium contained two ounces of yellowish serum. The heart was of ordinary size, rather pale in colour, and the walls were of normal thickness. On the auricular surface of the mitral right cusp was found a circular clump of granulations nine millimetres in diameter and four millimetres high and part of its edge was over the line of contact. Exactly opposite, on the other curtain, was a similar but smaller growth measuring seven millimetres in diameter and projecting three millimetres above the valve surface. The vegetations came into apposition when the valve was closed. The tissue round the vegetations was thickened and œdematous but there was no defect elsewhere. The other valves were normal. Examination of the brain revealed a diffuse purulent meningitis; the pus was thick and much more abundant on the cortical surface than at the base. The other organs seemed healthy, with the exception of the spleen which was somewhat enlarged. Sections of the valvular granulations cut in paraffin showed, besides masses of cocci, many diplococci resembling Fraenkel's pneumococcus. Unfortunately the brain was destroyed before smears of the pus could be taken.

Some points in the case merit notice. The brief period of apparent convalescence was marked enough to show that the pneumonia had waned and this was confirmed at the section by the fact that the lung had partially resolved. Further, the patient was able to indicate his new discomfort in the cardiac region. He perspired heavily, as recorded in the daily note. "Sweating is a very frequent symptom (of malignant endocarditis) and is usually of special notice from the peculiarly drenching character which is second only to ague and usually far beyond the average mark of phthisis and pyæmia."[2] The cardiac sounds at this time were clear, no impurity being detected until the twenty-first day of the illness. No presystolic element was ever audible and the size of the valvular growths could not be considered sufficient to cause an appreciable degree of stenosis, whilst their position was such as to allow a moderate amount of regurgitation. The pain and tenderness in the calves of the legs were taken to be the first signs of meningitis. Leube[3] lays stress on the hyperæsthesia of the skin and muscles, especially of the legs and calves. On the nineteenth day the patient had the only rigor which occurred during the illness. From the evening of the twenty-first day the third and last stage of the illness was established, dominated almost wholly by the meningeal symptoms. During the last few days the cardiac murmur ceased to be audible. The chart, which was kept four-hourly, showed the rise on the thirteenth day, and this with the præcordial pain and the sweating may be regarded as the first expression of the endocarditis. The final diarrhœa was probably due to minute embolic infection of the intestines, though these appeared normal to naked-eye inspection.

[2] Ibid.
[3] Osler's Text-book of Medicine, third edition, p. 955.

Our combined record of pneumonia in Barnhill Hospital for 20 months reached the total of 235 and the above is the only case in which the double complication of infective endocarditis and meningitis was observed. Pye-Smith[4] records 435 cases of pneumonia, with seven of ulcerative endocarditis, five of meningitis, and three of both. Osler[5] records the double complication five times in 103 necropsies. The discrepancy between the figures of the two authors is possibly due in the first place to the fact that Osler's record is a pathological one exclusively and in the second place to the difficulty of recognising the complication during life. When the heart or brain is involved in the acute stage of pneumonia the recognition of the new infection is a business of unusual perplexity and especially so if both be affected, for then, owing to the commanding nature of the meningeal symptoms and the possible latency of the cardiac ones, the former may completely overshadow the latter.

One case of meningitis alone occurred in our record; the patient was a girl, aged 16 years, and she died on the seventh day of the illness. One case of infective endocarditis alone was observed: there was a double aortic murmur—the pneumonia in this case was also in the right apex—and the aortic valve was found perforated and covered with recent vegetations. There was here a probability of former cardiac disease. Glynn,[6] quoting Orth, states that infective endocarditis is never found save in old valvular disease, but in our detailed case there was not the slightest suggestion that the endocarditis had been grafted on a previous lesion. Kanthack[7] found chronic disease of the valves in 64 per cent. and Kelynack[8] recognised old cardiac lesions in 75 per cent. but says: "In only four instances were there satisfactory grounds for believing that the valves were normal prior to the establishment of the infective process."

In conclusion, we express our thanks to Dr. William Core, superintendent of Stobhill Hospital, late medical superintendent of Barnhill Hospital, for his courtesy in permitting us to publish this case.

[4] Allbutt's System of Medicine.
[5] Loc. cit.
[6] Lumleian Lectures, THE LANCET, April 11th (p. 1007), 18th (p. 1073), and 25th, 1903 (p. 1148).
[7] Kanthack and Tickell, quoted by Dreschfeld, Allbutt's System, vol. v., p. 877.
[8] Quoted by Glynn, *supra*.

A CASE OF ACUTE SEPTICÆMIA TREATED WITH ANTISTREPTOCOCCIC SERUM; RECOVERY.[1]

BY G. H. CRESSEY, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, aged 15 years, a visitor to Torquay, had always been a perfectly healthy girl. Ten days before I saw her, while paddling in a stream, she cut the plantar surface of her right great toe, which bled freely but caused her no further trouble and she went to Torquay. I was called to see her late in the evening of August 10th, 1904, and was told that after spending a restless night she had been feverish and delirious all day. Her temperature was 103° F. and her pulse was 110. Her tongue and her breath were foul but no mention was made of any injury till the following day when I was asked to look at her foot. I then found a nasty-looking blister over the ball of the right great toe, an erysipelatous blush over the tibia, and tenderness in the ham and inguinal regions. A free incision was made into the toe and after some sanious fluid had escaped a large poultice was applied. Her bowels had been relieved, her temperature was 103°, and her pulse was 100. She was given quinine and iron and put on a beef-tea and milk diet. On August 14th Dr. W. Stabb saw her with me and the quinine was increased and the iron was omitted. On the 15th her temperature was 104° and her pulse was 120. There were considerable swelling over the dorsum of the foot, increased blush, and also swelling over the tibia. Dr. Stabb again saw her with me and under chloroform free incisions were made over the foot and the leg. In the evening the temperature had declined to 101·4°, the pulse was 104, and the respirations were 24. During the day she had had five grains of quinine. On the 16th the leg was

[1] A paper read before the Torquay Medical Society on Jan. 18th, 1905.

placed in a 1 in 80 carbolic acid bath and as the temperature ranged from 102·8° to 105° she was given five grains of quinine and also two drachms of brandy every four hours. There was a slight cough but nothing pointing to lung trouble. The pulse was 114 and the respirations were 24. She had had a fair night and had taken her nourishment well. On the 17th she had been delirious during the night but there were no increase of redness and no tenderness in the ham or the groin. The temperature ranged from 101·8° to 103·3° and the pulse was 106. The leg was placed in a chloride of sodium bath, 1 in 12, and she had during the day four grains of salol every four hours. On the 18th she was delirious during the night and perspired freely towards morning. On account of the urine being dusky with a slight trace of albumin the salol was stopped but the brandy was increased to three drachms every four hours. At noon the temperature was 104·6° and 20 cubic centimetres of antistreptococcic serum, obtained from the Lister Institute, were given hypodermically at 4 P.M. At 5.30 P.M. the temperature had fallen to 101·1°. On the 19th, after a restless night, ten cubic centimetres of the serum were injected at 4 A.M., after which the patient slept. There was a troublesome cough and a well-marked systolic apical bruit had developed, but there were no morbid sounds over the lungs. She was given digitalis and carbonate of ammonium every four hours and another injection of the serum. The temperature ranged from 101·8° to 104·8°. The patient continued in much this state till the 24th when her temperature fell to 99·8° during the night but it rose to 105° in the afternoon, the patient having had a slight rigor at 9.30 A.M. The cough was troublesome but there were no abnormal lung sounds. She was given three grains of quinine and five minims of solution of strychnine three times daily. She continued in much the same state for the next eight days though the noon temperature never rose quite so high. The cough was troublesome but there were no expectoration and no morbid lung sounds and the respirations only once reached as high as 30. After the 31st no more serum was used. A swelling appeared over the outer side of the right knee. The temperature fell to normal on Sept. 3rd and was subnormal up to the 6th. On the 7th the swelling over the knee and another over the ankle were incised, letting out some inodorous pus. The patient afterwards had a disturbed night and her temperature rose from 101° to 105·8° in the evening, her pulse from 120 to 140, and her respirations from 22 to 48. She was given ten cubic centimetres of serum, after which there was a profound rigor lasting nearly an hour, followed by profuse sweats and the temperature gradually fell to 96·8° at 7 A.M. on the 9th but rose to 104° in the evening, the respirations being 33. On the 10th there were physical signs of pneumonia over the right base. On the 15th the temperature reached 105°, there was stabbing pain in the right side of the chest, and a pleuritic rub was heard. Three leeches were applied with great relief. On the 19th there were physical signs of effusion and on the 28th there was dulness up to the middle of the scapula and the apex beat was displaced to one and a half inches outside the nipple line. On Oct. 2nd, after aspirating a syringeful of thin watery-looking pus, Dr. Stabb resected about one and a half inches of the seventh rib, letting out about three pints of curdy, inoffensive pus and inserted a large drainage tube. The temperature at once fell and on the 14th the tube was finally removed and the patient rapidly convalesced, still, however, having the systolic apical bruit and a rapid pulse. Altogether 235 cubic centimetres of the antistreptococcic serum had been injected. The patient had several superficial abscesses, due apparently to the serum, but not as a rule at the site of the injections.

I think that this most instructive case may be divided into three stages. 1. The stage of acute sepsis, during which there was lymphatic poisoning with swollen glands, high temperature, and rapid pulse. During this period the antistreptococcic serum was used pretty regularly until the skin became exquisitely tender. 2. The formation of superficial abscesses, nearly all of them being immediately beneath the skin. During this stage the great vital organs remained practically unaffected until a pleuro-pneumonia appeared in the right lung. 3. The formation of an empyema, the operation of paracentesis thoracis with marvellously rapid result, followed by convalescence in which there were no drawbacks.

Torquay.

MENTAL SYMPTOMS ASSOCIATED WITH HEART DISEASE.

BY H. KERR, M.A., M.D. GLASG.,
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THE presence of mental symptoms in cases of heart disease is not unusual; on the contrary, in all cases of grave heart disease one expects to find at some period or other the mental condition of the patient to vary from the normal standard, although only in a few would the symptoms justify the classing of the patient as insane. The frequency of heart disease in the insane may be estimated from the statistics of the reports of the Commissioners in Lunacy and in the report for 1902 the death-rate from this cause is found to be 10·07 per cent. of all causes of death. In a large proportion of these cases the heart affection had in all probability but little direct relation to the mental condition of the patient but in a certain number of cases mental symptoms are present which have a very definite relation to the cardiac condition and conform to a certain clinical type. It is this fact which has led alienists to give a place in their classifications to the insanity of heart disease as a distinct clinical variety, with subvarieties according to the different cardiac lesions.[1] The following case is of peculiar interest, not only on account of the mental symptoms which are characteristic of this type of insanity and which, judging by their sequence in the history of the case, may be fairly ascribed to the heart affection but also on account of the extreme degree of hypertrophy of the heart which was found to be present.

The patient, a man, aged 52 years, married, was admitted to the Bucks County Asylum on Feb. 6th, 1901, suffering from a first attack of insanity of three months' duration. He was a blacksmith and had been in failing health for about a year with symptoms of heart disease and failing action of the heart. There was no history of rheumatism and his general health had been uniformly good until his present illness. A month before admission to the asylum he had been received into the Hemel Hempstead Infirmary but had been sent home after nine days on account of his mental state. He had been depressed and low-spirited, with suicidal tendency, and according to the medical certificate "he told his son that he did not care anything about him or he should have him locked up or sent to the asylum, as he was afraid he should make away with himself." He had hereditary predisposition to insanity, his father's brother having been insane for many years and being at present an inmate in the Bucks County Asylum.

On admission the patient was worried and anxious in appearance and was very miserable and depressed, despairing about himself and his condition. He was suspicious of those around him and imagined they wished to injure him in various ways. He was somewhat slow and dull and disinclined to talk. Physically he was very stout, weighed 17 stones, was flabby in appearance, pallid, and looked ill; his respiration was slightly increased in frequency and dyspnœa was present, much increased on exertion, and he complained of a "sinking feeling in the stomach." Cardiac dulness was found to be much increased in every direction and marked pulsation was present over the cardiac area. A loud, blowing systolic murmur was present, heard all over the heart region but loudest over the aortic area. The pulse, 72 per minute, was regular in force and rhythm, and in character somewhat approaching the "water-hammer" type. He had slight cough and bronchial catarrh but no marked physical signs were present in the lungs. There was no anasarca and the urine was normal. He was kept in bed and under treatment with rest and cardiac tonics his general condition so far improved that in six weeks he was able to do light garden work without any ill-effects. His mental condition at the same time improved and he became cheerful and sociable, taking part in indoor games. He continued fairly well throughout the summer and the mental symptoms were not at any time prominent. In the latter part of the year the symptoms of heart disease again became very pronounced and he was quite incapacitated for work. In January, 1902, he became so ill that he had to stay in bed;

[1] Tuke's Dictionary of Psychological Medicine, p. 177.

anasarca appeared and became general, albumin was present in the urine, and the respiration became embarrassed with marked orthopnœa present. With the failure of his bodily health and the greater urgency of the cardiac symptoms he relapsed into his previous mental condition, eventually towards the end becoming very dull and stupid and dirty in his habits. No improvement in his condition resulted from treatment and he died on March 18th, 1902.

On post-mortem examination the heart was found to be enormously hypertrophied, weighing 31¼ ounces. The hypertrophy was general, the normal shape of the heart being fairly well preserved; the muscle was soft and friable. The aortic valve was incompetent, the flaps showing atheromatous change and one of them having numerous large vegetations. The mitral valve was dilated and atheromatous degeneration was present, which condition was also present in the aorta. The lungs were heavy and œdematous and several recent infarctions were found; infarcts were also present in the spleen and the kidneys.

Cases have been recorded where the heart has reached a degree of enlargement greater than in the present case; hypertrophy of this extent must, however, be comparatively rare and appears worthy of record. The sequence of events in the case of this patient appears to be that hypertrophy, probably induced by his occupation, had existed and been increasing for years; that the supervention of atheroma and valvular disease caused a further large increase in the muscle of the heart; that this was followed by the degeneration of muscle and failing compensation which brought in its train all the symptoms of cardiac failure. To these were added the mental symptoms which were a prominent feature of the case.

Stone, Aylesbury.

PROPERITONEAL OR ABDOMINAL HYDROCELE.

BY J. LEWTAS, M.D. LOND., M.R.C.S. ENG.,
LIEUTENANT-COLONEL, INDIAN MEDICAL SERVICE; SURGEON TO THE MAYO HOSPITAL AND TO THE EYE INFIRMARY, CALCUTTA.

THE descriptions of abdominal hydrocele given in English text-books of surgery are so meagre that they are apt to escape the recollection of their readers and hence any instance of it occurring to a surgeon causes a feeling of surprise if not of discovery. Until I met with the case recorded below I was not aware that this variety of hydrocele had been recognised and it was perhaps with a sense of disappointment that I found my "discovery" had already been discovered and described. The notes of the case are as follows.

The patient, a man, aged 38 years, was admitted to the Mayo Hospital, Calcutta, on July 1st, 1904, for what was diagnosed by both the resident surgeon and the house surgeon as a reducible inguinal hernia and he was got ready for a radical operation on July 3rd. Before he was put under chloroform I verified the presence of what appeared to be an inguinal hernia on the right side, which gave an impulse on coughing, which could be readily reduced, and which descended again immediately on withdrawing the hand. The usual incision was made and on reaching the sac it seemed darker than usual and was obviously distended with fluid. A small opening was made in it to give exit to the fluid which was clear and of a pale straw colour; but to my astonishment this continued to flow until the amount far exceeded the capacity of the sac and I began to think that there must be ascites as well as a hernia. However, the flow ceased when two and a half pints had escaped; then on looking into the sac at the internal ring it was surprising to find neither intestine nor omentum and on passing a finger through the ring nothing could be felt but the yielding sides of a smooth-walled cavity the limits of which could not be reached. In order to find how far this cavity extended and in what direction I passed into it the metal handle of a retractor which entered for a distance of about ten inches in directions radiating upwards and inwards from the internal ring. The left index finger pushed into the sac while pressure was made on the abdomen with the other hand could feel the under surface of the liver and of the umbilicus and the intestines could be felt through the thin wall of the sac. This large cavity communicated at the internal ring with the sac outside which extended thence to about an inch beyond the external ring where it ended in a blind pouch. This extra-abdominal sac was separated from its connexions and cut off close to the internal ring. A gauze drain was passed through the internal ring into the sac within the abdomen and the skin incision was then closed. There was nothing noteworthy in the after-history; the gauze drain was shortened on the third day and was removed on the ninth day. The abdominal sac did not fill again. The patient was kept in bed for three weeks and when discharged from hospital at the end of a month the abdominal sac, so far as could be ascertained, was obliterated.

As regards diagnosis this would depend upon the dulness on percussion of the swelling in the groin, its re-descent without gurgling after reduction, the transparence of the external swelling, and the presence of an area of dulness extending inwards or upwards from the internal ring. This form of hydrocele is one of the varieties of a hydrocele *en bissac* or a bilocular hydrocele, one pouch of which occupies the position of the cord, while the other expands into the iliac and hypogastric regions of the abdomen. This condition is mentioned in "Treves's System of Surgery" and is described by the late Sir George Humphry in his article on Diseases of the Male Organs of Generation in Holmes's "System of Surgery." Humphry gives notes of two cases, both on the right side and both of which suppurated after insertion of the lint of those days; he also refers to two other cases reported by Professor Syme and Lord Lister respectively. There is a still more detailed description of these peritoneo-vaginal hydroceles in the article by P. Reclus in Duplay's "Traité de Chirurgie,"[1] and it may be noted that the only case there figured is also on the right side. He describes three varieties of abdominal hydrocele—viz., (1) properitoneal, the most common; (2) interstitial, between the muscles of the abdominal wall; and (3) subcutaneous, in front of the aponeurosis of the external oblique. The explanation there offered is that the processus vaginalis having been obliterated at the internal ring and some point beyond this the non-obliterated portion between these points becomes distended with fluid, constituting a hydrocele of the cord the upper end of which expands into the abdomen, pushing the peritoneum before it, and thus a bilocular sac is established.

In order to bring about adhesion of the walls of the abdominal sac it has been recommended (1) to inject it with tincture of iodine; (2) to wash it out with a rather strong solution of corrosive sublimate; (3) to drain it through the lower sac; and (4) to draw the sac out through the internal ring and to remove it. But in the case of a large abdominal sac it would be unsafe to inject tincture of iodine, while its removal by drawing it out would incur obvious risks if the sac had formed adhesions to the peritoneum. To some extent the line of treatment would depend upon the characters of the sac, such as its size, thickness, and adhesions to the tissues outside it. Drainage after some irritation of the interior of the sac, as by manual examination of it, together with pressure and prolonged rest in bed, sufficed to effect a cure in this case, as well as in the two reported by Sir George Humphry, though it must be repeated that both of his suppurated.

Calcutta.

[1] Second edition, vol. vii., pp. 1037-41.

THE HOME OF RECOVERY.—A dinner in aid of the plan for this home in Surrey was given last week at the Prince's Restaurant, Piccadilly, London, W. The Duke of Portland occupied the chair and explained that the home would receive 21 patients, that a motor ambulance would be used for their conveyance from London, and that proper surgical treatment would be provided for those whose wounds or sores were still unhealed. The sum of £30,000 was needed, not for building but for permanent endowment. No debts would be sanctioned and no further begging would be encouraged. The sum of £5000 was needed for building and equipment and nothing would be done till the whole of the money was provided. Sir Frederick Treves, replying to the toast, spoke of the "terrific pressure" on the hospitals of London. "This home," he said, "is absolutely a necessity and it is a marvel to me that it has been so long delayed. There is no scheme that I know of that appeals more to those of us who have to do with surgery in London." Lord Lytton also spoke. Donations to the amount of £1335 were announced at the end of the evening.

TOTAL ENUCLEATION OF THE PROSTATE IN ADVANCED OLD AGE.

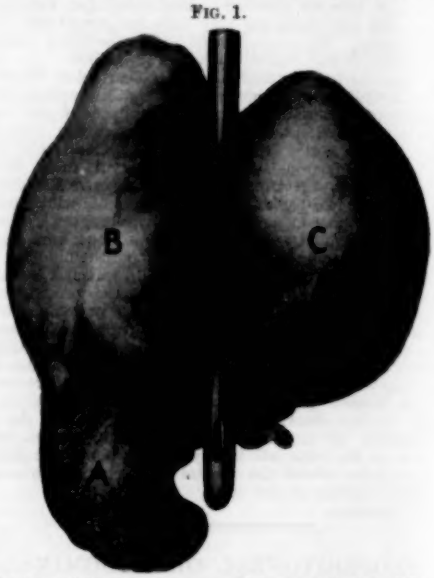
BY P. J. FREYER, M.A., M.D., M.CH. R.U.I.,
SURGEON TO KING EDWARD VII.'S HOSPITAL FOR OFFICERS AND TO ST. PETER'S HOSPITAL, LONDON.

[THE first part of this paper, which was an introductory address delivered before the Reading Pathological Society, was taken up with a description of the various steps in Mr. Freyer's operation of total enucleation of the prostate and the anatomical and pathological considerations tha render the operation feasible. These have already been published in THE LANCET. Mr. Freyer continued by directing attention to the application of the operation in the case of octogenarians.]

One of the most remarkable features of this operation is the success that has attended its employment in patients of very advanced ages. Amongst 134 patients on whom I have performed the operation to date there were seven octogenarians and one bordering on this period of life, aged 79 years. Seven of them are alive at the present time, most of them in excellent health, and all able to retain and to pass urine normally. The remaining patient, in whom the prostate was carcinomatous, after complete recovery from the operation died suddenly from heart disease. From these facts it would appear that age has little influence on the results of the operation, provided that the vital organs (and particularly the kidneys) are unaffected or fairly sound. Nevertheless, patients of this age cause much anxiety, and the operation should not be undertaken in such cases unless the most careful and tender nursing is available as well as the constant personal supervision of the surgeon. The details of these eight cases are as follows, the original numbers of the cases in the whole series being retained.

CASE 15.—The patient, aged 79 years, was seen in consultation with Mr. J. H. Scott of Camberley on June 10th, 1902. There had been prostatic symptoms for three years. The patient was completely dependent on the catheter for nine months. The catheterism was painful and accompanied by hæmorrhage at times, also orchitis. The sound was passed but no stone was found. The prostate was much enlarged per rectum, particularly on the left. It was bilobed, rather hard, but moveable over the bowel. On June 23rd, Mr. C. Carter Braine being the anæsthetist, Mr. Scott and Mr. H. Frankling assisting, I made a cystoscopic examination of the patient and saw a valvular outgrowth from the left lobe, of the size of a gooseberry, projecting into the bladder. Suprapubic cystotomy was forthwith performed. The prostate being rendered prominent in the bladder and fixed by a finger of the right hand in the rectum, with the nail of the forefinger of the left hand in the bladder I scraped through the mucous membrane over the valvular prominence and detached it from the tumour all round. With the point of the finger I then rapidly enucleated the left lobe in its capsule from the sheath and urethra and delivered it into the bladder. The right lobe was similarly enucleated and both were withdrawn from the bladder by forceps. The urethra was left uninjured, covering the catheter. There was some oozing of blood which was controlled by hot boric irrigations. A drainage tube was inserted and the abdominal wound was sutured. Mr. Braine timed the operation, which from the moment I took the scalpel to perform suprapubic cystotomy till the wound was sutured occupied ten minutes. The patient bore the operation well but was so sick from the anæsthetic that for three days he had to be fed entirely by the rectum. On June 29th the temperature rose to 103° F. and the right parotid gland suddenly swelled to a large size, and on July 2nd there was swelling of the right testicle. Both glands subsided without suppuration. What the cause of the swelling of the parotid was—whether due to chill, the result of rectal feeding, or occurring as it occasionally does after operations on the pelvic viscera and abdomen—I am unable to say. I feared at first that it might be due to septicæmia, but this was obviously not the case. Urine began to pass naturally on July 16th and the abdominal wound was completely closed on the 27th. I saw this patient recently, more than two years after the operation. He was in excellent health, had put on much flesh, and assured me that he passed and retained his urine better than at any period of his life previously to operation.

FIG. 1.

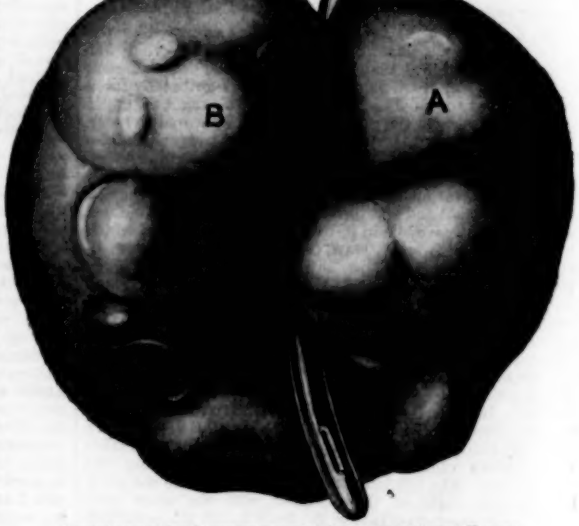


Prostate weighing 2 ounces removed from a patient aged 79 years (Case 15), actual size. C, Right lobe. B, Left lobe, continued into the bladder in the form of a so-called "middle" lobe, A. The catheter shows the position occupied by the urethra.

The prostate (Fig. 1) weighed two ounces, with each lobe enveloped in its true capsule. It is adenomatous but rather hard. It will be observed that the so-called "middle lobe" (A) is merely an outgrowth from the left lobe (B).

CASE 46.—The patient, aged 81 years, was seen in

FIG. 2.



Prostate weighing 5½ ounces removed from a patient aged 81 years (Case 46). A, Right lobe. B, Left lobe

consultation with Dr. H. J. Macevoy of Brondesbury on May 3rd, 1903. Prostatic symptoms had been present for ten years, gradually increasing in severity. There had been retention of urine for four years previously, relieved by catheter, which has been employed ever since. There were great frequency of micturition, intense pain at times, and hæmaturia. He had been seen from time to time by various London surgeons. Double vasectomy was performed in 1900, but with no relief. His condition had been extremely miserable during the last six months. I drew off eight ounces of residual urine containing much pus and blood; there was difficulty in introducing the catheter. The prostate was enormously enlarged per rectum; it was soft, tense, and moveable. Cystoscopic examination on May 4th revealed an outgrowth of the left lobe of the prostate in the bladder of the size of a plum. The patient was in very feeble health and confined to bed. On May 13th, Mr. J. W. Thomson Walker and Dr. Macevoy assisting, and Colonel W. G. H. Henderson, I.M.S., being present, I removed the prostate entire in its capsule. Some trouble was experienced in the enucleation owing to the stoutness of the patient, the finger with difficulty reaching the aspect of the gland towards the triangular ligament. The time occupied from commencing the suprapubic wound till the prostate was delivered from the bladder was 13 minutes. There was very little bleeding and no shock. The recovery was uneventful, the temperature remaining normal throughout. Some urine passed naturally on June 2nd and wholly in this way on the 5th. The patient went home on the 8th, 26 days after the operation, retaining and passing his urine naturally. He is now in excellent health, untroubled by any urinary symptoms.

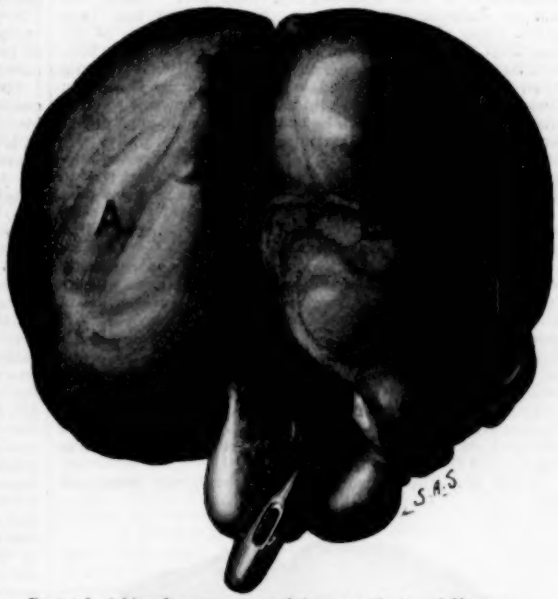
The prostate (Fig. 2), which weighs five and a quarter ounces, is an excellent specimen of almost symmetrical adenomatous enlargement of that organ.

CASE 67.—The patient, aged 81 years, was seen with Mr. C. T. Knox Shaw on Oct. 29th, 1903. Prostatic symptoms had been present for 30 years and gradually increasing. The catheter had been passed in June, 1901, showing 13 ounces of residual urine. Cystitis supervened in August, with much pus in the urine and rigors. The catheter was passed five or six times daily in November, 1902. The sound was passed under an anæsthetic in July, 1903, by another surgeon but no stone was found. The patient had been entirely dependent on the catheter since then, with much pain and occasional bleeding. His general health was bad. The prostate was greatly enlarged per rectum; it was broad, soft, nodular, and moveable. On Nov. 19th, Mr. Shaw and Colonel C. Little, I.M.S., being present, I removed the prostate entire in its capsule with several small calculi from the bladder. There was considerable bleeding and the patient was feeble for some days after the operation. By the 29th the suprapubic wound had closed so rapidly that it was necessary to reinsert a small tube to prevent spasm of the bladder. This was removed on Dec. 6th and on the same day the patient began to pass urine naturally. The wound was closed on the 11th. On the 16th he went out for a walk. I saw him two days ago. He is now, a year after operation, in excellent health and able to retain and to pass his urine naturally.

FIG. 3.

Prostate weighing 4¼ ounces removed from a patient aged 71 years (Case 67). A, Left lobe. B, Right lobe.

FIG. 4.



Prostate weighing 6¼ ounces removed from a patient aged 84 years (Case 70). A, Left lobe. B, Right lobe. Each showing an outgrowth in the bladder.

The prostate (Fig. 3) weighs four and a half ounces and is irregularly enlarged and bossy, the left lobe having been more prominent in the bladder than the right.

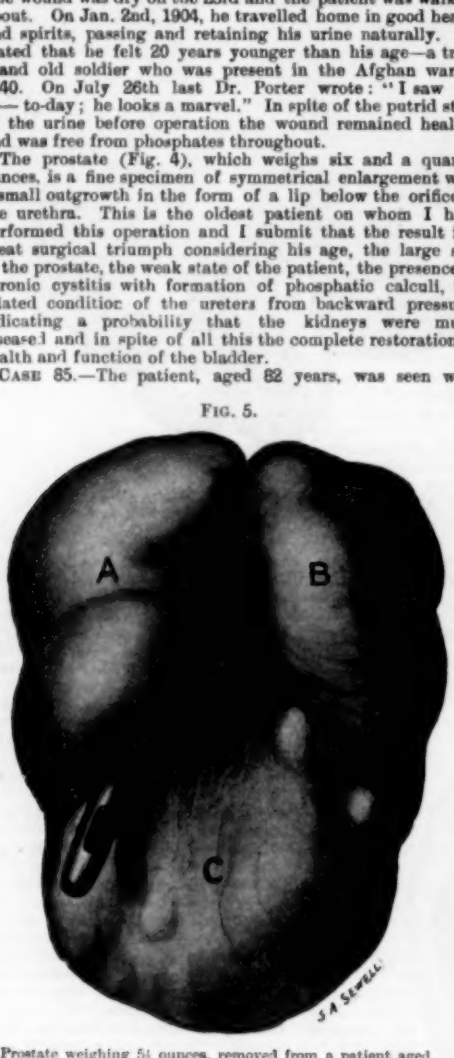
CASE 70.—The patient, aged 84 years, was seen with Dr. H. E. Bruce Porter of Windsor on Nov. 22nd, 1903. Prostatic symptoms had been present for eight years. The catheter had been employed for six years and the patient had been entirely dependent thereon for five years; it was passed every two hours. The urine contained much blood and ropy muco-pus; it was alkaline and fœtid. The catheter passed in 13½ inches before the urine flowed; a stone could be felt grating against its end. The prostate was enormously enlarged per rectum; it was roundly bilobed, smooth, soft, and moveable. The patient was emaciated, bearing the impress of terrible suffering. "Life not worth living under present condition," as he put it; morphine was given daily to mitigate the pain. He had an intermittent and irregular pulse; the arteries stood out like whipcords all over his body. Rigors and fever occurred periodically. He came to London on Nov. 21st and his bladder was washed out twice daily. On Dec. 4th, Mr. C. C. Braine being the anæsthetist and Dr. Porter assisting, I opened the bladder suprapubically and found two phosphatic stones which were removed; they weighed two and a half drachms. Both ureters were dilated to such an extent that the index finger passed readily into them. The prostate was felt to be of the size and shape of

a cricket-ball, and was jammed beneath the pubic arch, half of it lying in the bladder and half outside. It was enucleated entire in its capsule. Much force was required to separate it from the surrounding sheath. The time from commencing the suprapubic cystotomy till the prostate was delivered from the bladder was seven minutes. There was scarcely any bleeding or shock. The drainage-tube was removed on Dec. 7th. There was not an unfavourable symptom. No morphine had been given since the operation. "Talk of the pains of an operation," said the patient, "the last four days have been holidays from pain amongst many years." He sat up daily after Dec. 16th. He passed urine naturally by Dec. 20th. The wound was dry on the 23rd and the patient was walking about. On Jan. 2nd, 1904, he travelled home in good health and spirits, passing and retaining his urine naturally. He stated that he felt 20 years younger than his age—a truly grand old soldier who was present in the Afghan war in 1840. On July 26th last Dr. Porter wrote: "I saw old —— to-day; he looks a marvel." In spite of the putrid state of the urine before operation the wound remained healthy and was free from phosphates throughout.

The prostate (Fig. 4), which weighs six and a quarter ounces, is a fine specimen of symmetrical enlargement with a small outgrowth in the form of a lip below the orifice of the urethra. This is the oldest patient on whom I have performed this operation and I submit that the result is a great surgical triumph considering his age, the large size of the prostate, the weak state of the patient, the presence of chronic cystitis with formation of phosphatic calculi, the dilated condition of the ureters from backward pressure, indicating a probability that the kidneys were much diseased and in spite of all this the complete restoration to health and function of the bladder.

CASE 85.—The patient, aged 82 years, was seen with

FIG. 5.



Prostate weighing 5½ ounces, removed from a patient aged 82 years. A, Left lobe. B, Right lobe, presenting a tongue-shaped outgrowth, C, in the bladder.

Mr. J. L. Hewer of Highbury New Park on March 2nd, 1904. Prostatic symptoms had been present for 20 years and the patient had been entirely dependent on the catheter for ten years. He experienced great difficulty and pain in introducing the catheter latterly, two hours being frequently spent in manipulating the instrument before it passed. He had had frequent attacks of cystitis, hæmorrhage, and orchitis and had undergone seven operations for vesical calculus. He had inguinal hernia requiring a truss. The prostate was much enlarged, soft, tense, and moveable; it could be felt bimanually. The urine contained pus and mucus. On March 7th I removed the prostate entire in its capsule, Mr. Hewer assisting. The time occupied was six minutes. The operation was well borne; recovery supervened without any unfavourable symptom, the temperature remaining normal throughout. Urine passed naturally on the 23rd and the wound was dry on the 25th, 18 days after operation. The patient is now in excellent health, attending to his business daily. On July 19th he wrote to me: "The result of your operation has been entirely satisfactory. I am now able to pass and retain the urine as well as I ever did."

The prostate (Fig. 5), which weighs five and a quarter ounces, presented a large tongue-shaped outgrowth in the bladder growing from the right lobe. The rapidity with which the wound closed is remarkable in a patient aged 82 years.

CASE 96.—The patient, aged 81 years, was seen with Mr. H. Huxley on Feb. 17th, 1904. Prostatic symptoms had been present for five years. The patient was in great distress with an over-distended bladder. I passed a catheter and drew off 55 ounces of fairly clear urine. The prostate was much enlarged, rounded, smooth, and moveable. His general health was good. He passed some urine naturally for a few days but eventually he was completely dependent on the catheter. He was seen again with Mr. Huxley on May 3rd, when he travelled to London for operation, as catheter life was unbearable. His health was bad and he was very feeble. Rapid loss of flesh had taken place during the last two months. I enucleated the prostate on May 6th, Mr. Huxley and Mr. Thomson Walker assisting. The gland was scarcely prominent in the bladder; it was firmly bound down by its sheath. There was hardly any bleeding. The prostate weighed two and a half ounces. Progress was most favourable till May 10th, when a severe attack of gout set in, followed by severe inflammation of the parotid glands which, however, did not suppurate. Though the wound kept clean throughout progress was slow, owing to the weak state of health. Urine was passed naturally by June 2nd and entirely per urethram by the 11th. The patient left the surgical home on the 16th and on the next day the suprapubic wound reopened. A catheter was tied in till the wound closed again. The patient can now pass and retain his urine normally and his health generally is gradually improving.

CASE 121.—The patient, aged 83 years, was seen with Dr. R. M. H. Randell of Beckenham on August 10th, 1904. The usual prostatic symptoms had been present for 12 years. He had had cystitis eight years previously, since when he had employed a catheter, latterly three times nightly, and once or twice by day. He could pass small quantities of urine naturally by day but with great frequency of micturition, attended by pain. There was difficulty in introducing the catheter, attended by bleeding. The patient was in great distress and was suffering from chronic cystitis. The prostate was greatly enlarged per rectum and was bilobed, soft, moveable, and smooth; it was easily felt bimanually. His general health was fair. On Sept. 15th, Dr. Randell assisting and Dr. F. de Havilland Hall and Mr. E. G. Renny of Colchester being present, I enucleated the prostate which weighed four ounces, in its capsule, leaving the urethra behind. The time occupied by the operation was five minutes. There were scarcely any bleeding and no shock. The patient made an uneventful recovery, urine passing naturally by Oct. 12th and the suprapubic wound being dry on the next day. He is now in good health and able to retain and to pass his urine as well as he ever did.

CASE 123.—The patient, aged 83 years, consulted me on Oct. 22nd, 1903. He had had vesical calculi crushed in 1897 and again in 1900. During the last two years he had been in great distress from pain and frequency of micturition, being out of bed every half hour by night. The prostate was not enlarged per rectum but there was a nodule in the right lobe of stony hardness. The cystoscope revealed considerable enlargement of both lobes in the bladder and under the anæsthetic the nodule in the right lobe was felt bimanually to be of considerable size and gave rise to a suspicion of malignancy. The residual urine was only two and a half ounces. Employment of a catheter was advised. I saw the patient again in June, 1904, when he was no better. He would not persist in the use of the catheter, which, he said, made him worse. Early in September he begged for operation as he could not sleep owing to the pain and frequency of micturition. There was rapid loss of flesh during the last few months. On

Sept. 19th, Mr. C. C. Braine being the anæsthetist, I enucleated the prostate with some difficulty, the right lobe being very adherent to the surrounding tissues. There was scarcely any bleeding or shock. Section of the right lobe of the prostate (which weighed one and a quarter ounces) showed it to be carcinomatous. The patient made very favourable progress, passing urine naturally by Sept. 27th and the wound being practically closed by Sept. 30th, after which he sat up daily. On Oct. 15th whilst walking he felt faint, fell down, and rapidly expired from heart failure.

[Since this address was delivered on Oct. 20th, 1904, I have performed the operation in a further series of 34 cases, amongst whom there were two octogenarians. To complete the record to date I will give details of these two operations.]

CASE 155.—The patient, aged 83 years, was seen with Dr. J. C. Ferrier of South Norwood on Dec. 8th, 1904. Prostatic symptoms had existed for five years; these had been much aggravated during the last two years. The patient had retention of urine 15 days previously and was entirely dependent on the catheter for ten days. There were much pain and difficulty in introducing the catheter and he was in great distress from cystitis, attempting to pass urine every few minutes. The prostate was enlarged, bilobed, tense, and moveable and was felt bimanually. The patient was stout; his general health was fair; the urine contained pus and albumin. On Dec. 10th he was conveyed to London by ambulance. After washing out the bladder daily and preparing him for operation, on Dec. 20th, Dr. Ferrier assisting, I opened the bladder suprapubically, removed a small urate stone weighing 39 grains, and then enucleated the prostate, weighing two and three quarter ounces, entire. The time occupied was five minutes. There was very little bleeding and no shock. No unfavourable symptoms supervened. Urine commenced to pass naturally on Jan. 9th and the wound was closed on the 12th. On the 16th the patient was walking about his room and on the 25th, when he left for home, he was in good health, passing and retaining his urine as well as he ever did. On Jan. 28th Dr. Ferrier wrote: "I am exceedingly pleased to see how well a man of his age has done after your operation."

CASE 160.—The patient, aged 80 years, was sent to me by Dr. A. M. Mitchell of Guildford on Jan. 11th, 1905. Prostatic symptoms had existed for four years. Retention of urine occurred one and three-quarter years ago and was relieved by catheter which had been regularly employed since then; he had been entirely dependent thereon for one year. He had had cystitis, hæmorrhages, intense pain in the penis during and after using the catheter, and the urine, which was alkaline, contained much pus and mucus. He had been in bed for seven weeks and was so feeble that he had to be conveyed to London by ambulance. The heart was very feeble with irregular and intermittent pulse. The prostate was bilaterally enlarged, soft, smooth, and moveable. Much pain and tenderness were felt during examination which were suspected to be due to the presence of vesical calculi. The patient's condition was very distressing, the catheter being introduced with much difficulty and pain. On Jan. 16th, Mr. C. C. Braine being the anæsthetist and Dr. Mitchell assisting, I removed four phosphatic calculi, weighing 185 grains, suprapubically and then enucleated the prostate entire without difficulty. The prostate projected into the bladder in the shape of an enormously hypertrophied cervix uteri with wide, irregular os. It weighed two and a half ounces. The time occupied was eight minutes, four of which were expended in removing the calculi. The operation was well borne and there was no shock. Progress has been most satisfactory, the patient soon regaining strength. Some urine was passed naturally on Jan. 24th and the wound was dry on Feb. 8th. He is sitting up daily in his room. He can pass and retain his urine (which is almost quite clear) as well as ever and will leave for the country in a few days.

Harley-street, W.

SCOTTISH POOR-LAW MEDICAL OFFICERS' ASSOCIATION.—At a meeting of the executive council of this society held on Feb. 15th at Glasgow, Dr. William Cullen, vice-president, presented Mr. W. L. Muir with several handsome pieces of silver plate in appreciation of his indefatigable services as secretary of the association. The presentation was made by the unanimous wish of the association.

ENELECTROLYSIS: AN IMPROVED METHOD OF OPERATING ON SUPERFLUOUS HAIRS.

By BALMANNO SQUIRE, M.B. LOND.,
SURGEON TO THE BRITISH HOSPITAL FOR DISEASES OF THE SKIN.

THE extreme dislike evinced by most women to engaging in the habit of shaving when they are the subjects of superfluous hair, although this method is probably the best they can adopt for ridding themselves of the disfigurement, and their almost invariable insistence on having the hair removed by electrolysis, renders any improvement in operating with the electrolytic needle a desideratum. The operation as hitherto practised is by no means ideal as to the results obtainable from it even in the hands of expert operators, and instances are by no means rare in which the effects of the operation have produced considerably more disfigurement than the original condition; the procedure has consequently in great measure fallen into discredit. As hitherto practised, the hair is taken as the guide for the direction in which the needle should be pushed with a view to its point reaching the root or papilla from which the hair grows and after the needle has been allowed to remain *in situ* for a period presumably long enough for the current to destroy the papilla, the hair thus operated on is seized by a pair of tweezers and very gentle traction is made on it; then if the hair comes out as if quite loose the hair papilla is considered, and with good reason, to be destroyed.

Quite recently, however, another mode of setting to work occurred to my mind—namely, to pull out the hair first and then to pass the needle into the hole left by the extraction of the hair. This difference, trivial as it seems, alters the whole character of the operation. It renders the destruction of skin that necessarily accompanies the destruction of the papilla very much less, and in consequence the scarring left after the operation is not very noticeable. It makes the operation a much more certain one—indeed, it converts it into an operation of precision. The upper lip, hitherto always by far the most difficult region to operate on, becomes as easy to deal with as the chin. One very important advantage of it is that it makes the procedure much more expeditious and another is that the pain caused by the introduction of the needle is notably less. My doubts as to this improvement before I had tried it were that in pulling out the hair first, often in itself a difficult thing to see, one at once loses one's only guide not only as to the point at which the needle should be inserted but also as to the direction in which it should be pushed; that, even if one could contrive to see the orifice of the hair follicle, one has lost in the plucked-out hair the clue to the precise direction of its slant. Then I feared that in passing the needle down the hair follicle the point would get caught in the wall of the follicle and thus diverted from the proper direction, and, lastly, I foresaw that the only test of success—namely, the hair yielding easily on traction with the tweezers—was rendered impossible. On trial, however, I found that not one of these objections was valid.

The drawbacks to the method hitherto in use are, on the contrary, by no means imaginary. The direction of the hair outside the skin is not a trustworthy indication of its direction in the substance of the skin. It shows the direction of the slant but not the degree of the slant, inasmuch as the majority of the hairs directly they issue from the skin become at once curved. I am aware that it has been claimed that a catheterisation by the needle of the hair-filled follicle is possible and that thus the hair-filled follicle will guide the sharply pointed needle to its right destination. A pretty considerable experience of the operation has convinced me that this is not so or at the most happens only in an extremely small percentage of the hairs operated on. As a rule the point of the needle, even when very carefully and slowly introduced, pierces the skin by the side of the follicle and arrives at its destination at a spot on one side of, and at a variable distance from, the papilla. The consequence is that an unnecessary destruction of the skin has to be produced in order that the destruction may radiate until it has reached the papilla; in short, that this has to take place visibly before the hair will come out under really gentle traction with the tweezers. Then, on pushing the needle-point into the skin, however slowly, so that its electrolytic

action may, so far as possible, enable it to eat its way; still the mobile and elastic skin always gets more or less pushed out of its proper place, for hairs always slant, and so the true direction of the hair gets lost. This is especially so on the extra mobile upper lip. In many instances the most practised operator finds that when he thinks he must have attained approximately the right direction the hair still sticks fast and will not come out on gentle traction, unless, indeed, a regrettable hole is at last burnt in the skin by the prolonged cauterising effect of the needle. The pushing of a needle, however fine, however pointed, and however polished, into the skin is very perceptibly resisted by the skin unless, indeed, it be done with a jerk, which is inadmissible for the purpose in question, and it pushes the skin before it even if the puncture be made perpendicularly to the surface, which is never possible in dealing with hairs on account of their pronounced slant. This is a great disadvantage of the method hitherto pursued.

As to the operation I now propose I must premise that it is quite possible to see the orifice of the hair follicle after the hair has been pulled out and that this being identified it becomes possible always to introduce the point of the needle into the hair follicle itself, a feat which is scarcely, if at all, possible to achieve unless the hair has first been pulled out. As to the direction in which the needle should be guided this can be known by carefully observing the exact direction of the hair before it is pulled out and even after this has been done considerable aid is afforded by observing the precise direction of slant and degree of slant of the neighbouring hairs. This being so it is easy to effect a true catheterisation of the hair follicle with the needle. In this manner the point of the needle touches the spot instead of arriving somewhere on one side of it. The needle if thus used enters the skin with the greatest ease, it does not in the least push the skin before it, and it does not displace the skin laterally. It has glided down a pre-existing tube which a No. 12 sewing needle fits quite easily. The introduction of the needle is much more expeditious, also it has to be left in the skin for a much shorter time because only a very short electrolytic action is required to destroy the papilla when the point of the needle is in actual contact with it. The whole process thus becomes much more expeditious. A much greater number of hairs can be operated on in a given time. The destruction of skin each time the needle is inserted is infinitely less and the scarring left is reduced to a minimum, not only by reason of the shorter action required of the current when the papilla has been reached but also by reason of the far more rapid introduction of the needle. It may, perhaps, be objected that one hereby loses one's test of success—the easy withdrawal with the tweezers of a loosened hair. One gains, however, in exchange a new and equally satisfying test. Here I must explain that I soon learnt that it is better to use the butt end (the eye end) of the needle than its pointed end. It slips down just as easily—indeed, more easily—because the point end is apt to stick and get caught in the walls of the follicle and is thus diverted from its aim. Now when one finds that the butt end of a needle enters the skin far more easily than the point, as used in the ordinary way in the hitherto practised methods, one may be reasonably sure that it is passing down the follicle.

A word now as to the means of identifying the orifice of a hair follicle after the hair has been pulled out. The orifice is, of course, not boldly obvious; a little practice is naturally a great aid in discerning it. One is assisted too by taking the bearings of the orifice before the hair is pulled out; it may, for example, be in a line with the point of emergence of two other hairs and the three may be equidistant or what not. In any case, after pulling out the hair with the tweezers it is necessary to keep one's gaze fixed on the orifice until the needle has been inserted into it. The butt-end of the needle ought to be allowed to remain in the orifice for an instant so as to burn a minute funnel in it before the needle is allowed to glide in. For this instant the needle should be held perpendicularly to the surface and then slanted to approximately the right direction and the right slant. I say only approximately, for it is one of the great advantages of this method that, that being so, as soon as the needle is once engaged in the follicle it becomes guided in its further progress by the follicle itself. I have to admit that in performing this operation I have the great advantage of being myopic to − 8 dioptres but anyone who will put on spectacles of, say, + 8 dioptres, will be in exactly the same position as myself for identifying the orifice of the hair follicle. The orifice under favourable conditions looks like a very minute needle-prick. I would suggest as a distinctive name for this method of operating the word "enelectrolysis."

Weymouth-street, W.

LACERATION OF THE ABDOMINAL WALL THE RESULT OF BEAR-BITE SIMULATING AN ABDOMINAL TUMOUR.

BY V. S. UMACHIGI, L.M. & S.

A MAN, aged 45 years, with a red fungoid pendulous tumour in the left hypochondriac region, was brought to the surgery from Castle-Rock on May 14th. The patient while returning home from his work in the jungles one evening was attacked by a wild bear. He received several nail-wounds on his chest and abdomen and a severe bite on the left side of his abdomen. He struggled hard with the bear, which at last ran away, leaving him disabled. After the injury a fleshy pendulous mass was seen protruding from the skin wound on his abdomen. The patient was weltering in blood on the spot and was helped to his hut by his companions. An attempt was there made by his fellow coolies to treat the wounds with some dark stuff. As he did not feel any relief from these applications and as the tumour began to increase in size they thought it fit to seek for better treatment and therefore took him to Castle-Rock exactly one week after he had received the injury. He was thence brought to Belgaum and into our surgery by a kind gentleman. On admission the patient looked quite exhausted and his condition appeared to be critical; his pulse was weak, his extremities were cold, and his face was pinched and drawn. His voice was low and he felt thirsty. There was no history of nausea or vomiting. He preferred the recumbent posture to sitting up, as the tension was relieved thereby. He said that he had felt a dragging pain throughout the week in the gastric region. On palpation the stomach was found to be distended and the spleen (which was malarial) was considerably enlarged; the liver was normal. The tumour presented beneath the costal arch of the left hypochondriac region. It had a fungoid appearance more or less pear-shaped with a notch at the fundus, the most dependent part, and had a pedunculated neck as it issued forth from the skin wound. It measured six inches long, seven inches around the fundus, and five inches around its peduncle. The thickness of the tumour was about two inches. The whole surface was looking very fleshy and was covered with stinking and thick pus. When the tumour was raised and the posterior surface exposed a central notch that extended nearly as far as half the depth of the tumour was noticed (which appeared to be the mark left by the teeth of the animal).

The tumour felt like an elastic mass. On gentle percussion a dull note could be elicited and the patient felt no pain A probe could be run around the peduncle of the tumour, between it and the border of the skin wound. The probe was, however, not forced deeper down for fear of entering the peritoneal cavity if it should be an abdominal tumour. The situation of the tumour just near the enlarged spleen, a marked notch on the border and another on the posterior surface which very much resembled the hilum, and the elastic feel of the tumour led one to believe for some time that it might be an accessory spleen. The possibility of a portion of the transverse colon protruding was also not lost sight of. Hence, to make sure of its nature a small piece of it at the inner angle of the fundus was removed. This piece showed mostly fibrous structure with a rich supply of blood. Above all this, the patient having lived eight days after the receipt of the injury made me very doubtful of the tumour being abdominal unless localised peritonitis should have prevented it from infecting the general peritoneal cavity. Having made the usual preparations for the operation the tumour was removed; profuse hæmorrhage from several cut vessels was controlled by hæmostatic forceps and ligaturing. Trying to dissect it out at the peduncle, its firm attachment at the costal arch without any connexion with the abdominal cavity was noticed. The wound being dressed the patient was kept in bed and was directed to take perfect rest lest bleeding might set in again.

On examining the tumour after removal it had a film of

thick pus all over the surface, which on being cleaned showed a nodular surface over which were seen a few hair follicles scattered about. It was therefore certain that the surface was skin structure and on making a section of the tumour it showed abundant fibrous tissue with traces of adipose tissue and muscle fibres. This was confirmed by microscopic examination. The patient was repeatedly questioned as to whether he had noticed any tumour or swelling at the seat before the receipt of the injury but he and his friends emphatically denied the presence of any.

The occurrence of a tumour of mixed type consisting of fibrous, adipose, and muscular tissues with a capsule of cutaneous structure as a result of bear-bite leads one to believe that laceration of a few fibres of the first digitation of the external oblique muscle together with the overlying skin and subcutaneous tissue took place by the severe bite, and as the lacerated piece had a good supply of nutrient vessels it did not slough off but on the contrary the proliferating overlying skin encapsuled the whole mass. The discharge of the wound kept it soaking and thus disguised its real nature by rendering it sodden and fungoid. The patient progressed very satisfactorily after the removal of the tumour but he had two attacks of malarial fever during his stay under treatment. These were checked by a few doses of quinine. In 13 days the wound healed and he was discharged relieved on May 26th.

Camp Belgaum.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL.

A CASE OF EXTRAPERITONEAL URETERO-LITHOTOMY IN A CHILD, AGED THREE YEARS.[1]

(Under the care of Mr. HENRY BETHAM ROBINSON.)

ON June 17th, 1904, a male child, aged three years, was admitted to the East London Hospital for Children, Shadwell. On the 16th he had pain in the penis, which was worse on running about, and in the evening he passed small quantities of urine frequently with great penile pain but no blood which the mother looked out for. She gave him castor oil and the straining to defecate made him much worse. He was admitted to hospital at midday on the 17th, not having passed urine since 3 A.M. Examination showed an impacted calculus in the bulb with the bladder distended up to the umbilicus. Very shortly afterwards this stone was cut down on and removed with a scoop and there was a free flow of clear urine. The wound in the urethra was closed with fine silk and the skin wound was only partially closed, the remainder being lightly packed with gauze. Before closing the urethral wound a sound was passed into the bladder but no other stone was detected. A bimanual examination confirmed this and gave some more information, for a small hard lump was felt on the left side of the pelvis just below its brim, which was diagnosed as an impacted calculus in the ureter; the kidney did not appear to be enlarged. Not knowing how long the calculus had been there and supposing that perhaps it was making its way to the bladder Mr. Robinson determined to watch it for a few days. The urethral wound healed without any leakage and as on examination at the end of a week the ureteral calculus remained in the same position Mr. Robinson assumed that it was fixed and arranged to remove it. The urethral calculus was of about the size and shape of a cherry-stone, measuring seven-sixteenths of an inch by three-sixteenths of an inch and showing no facets.

The operation of uretero-lithotomy was performed on the 28th. A curved incision was made on the left side as if to tie the external iliac artery and the peritoneum was pushed upwards and inwards till the inner side of the vessels was reached. The little hard lump in the ureter was felt just below the brim of the pelvis and the delicate fat was separated to expose the ureter. A finger in the rectum enabled the ureter to be pushed well up into the wound; a small longitudinal incision was made down on to the stone which was lifted out with a small scoop. There was an immediate gush of pale odourless urine estimated at about two ounces, so that although no enlargement of the kidney could be made out there must have been considerable distension of its pelvis and calyces. A fine catgut stitch was put through the outer coats of the ureter, avoiding the mucous membrane, and a small drainage tube with a gauze wick inside was placed in close relation with the ureteral wound. The muscles and the skin were sewn up together with horsehair. The calculus was of oval shape, slightly flattened, and roughened on its outer side with a coating of oxalates. It measured just under three-sixteenths of an inch in length and two-sixteenths at its thickest diameter. Section showed it to be composed of alternating laminæ of oxalates and uric acid, the nucleus apparently being oxalates. On the 29th the wound was dressed and the gauze wick was removed and renewed. There had been some discharge of urine into the dressings. The child's condition was most satisfactory. The drainage-tube was taken out on the third day, the gauze being only a little damp, but a piece of gauze was replaced between the lips of the wound. After the fourth day there was no suspicion of any leakage of urine. The child's state was perfect, a normal quantity of urine being passed and at regular intervals. There had been no blood in the urine since the operation. There was never any rise of temperature after the operation. The wound was quite healed on July 13th.

Remarks by Mr. ROBINSON.—On two previous occasions I have elsewhere recorded successful cases of extraperitoneal uretero-lithotomy occurring in adults. Reference to other published cases shows no instance where this operation has been previously performed at such an early age and this fact alone, apart from the desirability of recording all these cases, makes this one worthy of notice. The experience of my three cases enables me to state that it is a far easier operation in the child than in the adult for the following reasons—viz., the thickness of the soft parts is less, the peritoneum strips back more readily owing to the small amount and the delicate nature of the subperitoneal connective tissue (although great care must be taken not to wound the very thin peritoneum), and the small size of the pelvis with the abdominal position of the bladder enables the finger in the rectum to push the ureter with the impacted stone well up into the wound instead of having to work at the bottom of a deep space.

One point brought out in this case I would wish to emphasise—viz., that with an impacted urethral calculus it should not be assumed that this is the only one. Examination of the bladder with sound and bimanually as well as palpation of the abdomen may discover a second or more stones which, if left behind, may produce serious results; in this case especially the unsuspected impacted ureteral stone would assuredly have caused hydronephrosis if left *in situ*. On the technique of the operation there is nothing to comment. It was extraperitoneal, as is now firmly established it should be. The lips of the ureteral wound were brought together with catgut which did not go through the whole thickness of its wall; if possible to do this it is better as it limits, if not prevents, the discharge of urine and induces rapid healing. Of course, drainage down to the ureter must be still used to circumvent any urinary extravasation.

[1] A case read before the Clinical Society of London on Feb. 10th, 1905.

MEATH HOSPITAL, DUBLIN.

A CASE OF RICHTER'S HERNIA.

(Under the care of Dr. R. LANE JOYNT.)

A WOMAN, aged 75 years, was admitted to the Meath Hospital, Dublin, on Dec. 27th, 1904, suffering from a strangulated hernia. She had been seen early that day by the dispensary medical officer of the district in which she lived, who diagnosed this condition and advised her instant removal to hospital for operation. She had been constipated for five days, had noticed pain in the left groin for two days, and had vomiting occasionally during the day preceding her admission. The pain was not excessive; the

swelling though hard was freely moveable, in fact so much so as to give the idea of a pedicle beneath the tumour in the left femoral region. The patient was a thin spare woman and seemed not much concerned at her condition. She could give no exact statement as to the duration of the constipation or about the onset or extent of her vomiting. She stated that the tumour "might have been there" three months before but evidently until the medical man found it and it caused her pain she had thought nothing about it. She had no rise of temperature on admission but slight pain on examination and a pulse of 105. Her arteries were very rigid and tortuous. Dr. Joynt saw her on her arrival in hospital and decided to operate at once.

The operation was briefly as follows. The hernia was cut down upon. A globular piece of gut one and a quarter inches in diameter was in the sac, the neck of which was deep, and any attempt at division of the stricture from within was impossible without risk to the gut and, moreover, would not allow of inspection of the strangulated portion. Accordingly, prolonging the skin incision vertically upwards, Dr. Joynt opened the abdominal cavity by separating the muscles half an inch above Poupart's ligament. From within a coil of ileum was found tightly caught in the left femoral ring and to free it Poupart's ligament was divided vertically. The hernia embraced two-thirds of the lumen of the bowel, the part protruded being expanded like a ball on the bowel. This was at once excised and a Murphy's button was inserted. The sac was ligatured, the cut Poupart's ligament was sewed to itself and also to the pectineal fascia, and the abdomen and the femoral portion of the wound were closed without drainage. The patient made a good recovery and the button was passed on the fourteenth day.

Remarks by Dr. JOYNT.—A valuable and instructive lecture on Richter's Hernia having appeared in THE LANCET of Jan 28th, p. 205, by Mr. V. Warren Low, the above case may prove of interest, bearing out the many points laid stress on by Mr. Low and raising some others worthy of consideration. Now, the interesting points in such a case are the following: (1) the diagnosis; (2) the variation of the symptoms from the text-book type of "strangulation"; (3) the influence of age in modifying these symptoms; (4) the absolute necessity for operation in all cases of hernia giving any trouble; and (5) the question of how to free the sac rapidly in a way that complies with the proper inspection and treatment of the gut and leaves least damage to the abdominal wall.

Now as to diagnosis. Mr. Low has dealt very fully with that. To the operating surgeon it resolves itself into judging whether the patient is fit or not to undergo the operation. Every case not obviously *in extremis* ought to be operated on. The practitioner who may first see the case should remember that a recent hernia, a femoral hernia, and a small hernia are all especially dangerous; that old age seems to eliminate the violent pain and fever so often seen in robust adults; that gangrene of a hernia occurs with rapidity in old people, at times apparently after from 12 to 24 hours only have elapsed since acute symptoms set in; that chronic constipation from atony occurring in old patients may lead them to disregard constipation as a serious matter and they may make misleading statements about the regularity of their motions; and, finally, the great probability of small recent hernias being "partial" ones. These are known to be very dangerous and to give rise to anomalous symptoms. Old age unquestionably abates the number and severity of the symptoms, while it accelerates the fatality. Of the necessity for prompt operation little need be said. Taxis in a hernia which is recognised as the seat of present trouble ought to be banished to the limbo of the past like the swallowing of metallic mercury and lead bullets.

The opinion of a competent physician who may have seen such a case prior to its coming under the care of the operating surgeon ought not to be disregarded, although active symptoms are wanting when the case is seen by the latter. To wait for the reappearance of symptoms in the presence of a tumour would be to lose valuable time. The hernia has given trouble. It must be dangerous, especially in old people; how much so we do not know. Operation *per se* is not dangerous and nothing but an unrestricted operation will allow the condition present to be made out clearly and dealt with. To free the hernia is not so easy as may at first sight appear. The acute angle which the strangulated gut makes round the sharp margins of the ring prevents the safe introduction of the hernia bistoury. Even supposing that with due care and skill it is introduced why should such an uncertain, blind, and unsurgical method be tried? In the great majority of cases it would no doubt give sufficient freedom for the gut to be reduced but not to pull it down to inspect it sufficiently without having to exercise undue traction on the injured portion. I refer, of course, here only to femoral hernia and much less does the old method give facility to do any end-to-end anastomosis and would, moreover, negative the use of the button. Now it is well known that the most injured portion of a hernia is where the healthy bowel meets the protruded part and this part must be examined. If the surgeon has freed the bowel to his satisfaction I hold that if a partial hernia is found one ought to go further and to consider the following. The extrusion of a portion of the lumen of the bowel through an aperture argues the application of great pressure from within, much greater than is necessary for the production of a common hernia. The edges of the ring are sharper and more unyielding in femoral than in inguinal hernia and in consequence the portion of gut extruded has been subjected to a degree of injury which makes its recovery highly doubtful, however "glossy" or viable it may seem at the time it is inspected. Most men have experience of cases where though everything seemed right at the time of operation yet subsequently at post-mortem examinations necrosis or ulcerations were found of the originally strangulated gut. By an operation conducted from above—i.e., through the abdomen as well as from below—safety can be insured to the gut, if as yet unopened by gangrene, and so avoidance of risk to the peritoneum. Risk to the deep epigastric artery or an aberrant obturator artery is avoided, while ligation, if necessary, is rendered easy and a fair field is secured for whatever method of completing the operation may be deemed advisable.

Now, as to freeing the so-called constriction, in my case Gimbernat's ligament was not the cause but the deep crural arch and Poupart's ligament had been pressed into one sharp-edged band and Hey's ligament had been pressed upwards until it coincided with Poupart's ligament. This mass I divided at once in this case without hesitation, because the patient was old (75 years) and feeble and I had already taken some time in carefully cutting down on the hernia proper, and she being old a weakness of her abdominal walls would not be so serious as in a young active person. Further, as time was all important I used a button in preference to suture for the resection. I resected the bowel because of the mechanical reasons mentioned above, also that for one reason or another cases of Richter's hernia have a high mortality and my own experience up to the present has borne this out. Other methods, of course, occur to one as suitable in certain cases. In younger subjects every effort should be made to preserve Poupart's ligament, possibly dealing with the hernia proper by converting it into a fæcal fistula and so relieving the obstruction, and subsequently or at the time doing a lateral anastomosis between the pieces of bowel continuous to the hernial portion. This presupposes that adhesions have formed between the hernia and the ring. Here we are met with uncertainty. This would suggest itself as feasible where gangrene with rupture of the hernia had occurred into the sac with perhaps a localised abscess, but unhappily this argues a neglected case, and it is more than likely the opened bowel has receded into the abdominal cavity and caused general peritonitis. Again, seldom are such adhesions found in strangulated recent hernia and to rely on them if present would be dangerous. I have never met with this class of adhesion myself but if I did I should not rely on their holding power. The moveable bowel is held to an immoveable ring; the pressure of intestinal contents, the abdominal pressure, and peristaltic action can only act in one way—viz., to tear them apart. If the gut were gangrenous then the safer procedure would be to clamp both portions of the gut within the abdomen, to withdraw and to remove the injured portion, to excise the sac and to wall off the general abdominal cavity with sponges to protect it as much as possible from infection. If the condition of the patient permitted it I should join up the gut, if not, I should use Paul's tubes and subsequently resect the bowel when the patient had recovered from the first operation.

In conclusion, femoral hernia should be looked on as a very grave condition, most probably of the partial hernia kind and as such calling for early and sweeping measures; taxis of any sort is dangerous (the herniotome should be

laid aside) and the force required to produce it is great, therefore the damage is great. Had I met with bowel in an ordinary case of hernia presenting the naked-eye appearance seen in this case I should certainly have hesitated to excise it. I think the success of this case may be attributed to the early period at which the operation was performed and the excision of the bowel left no potential cause of mischief behind. In spite of the severance of Poupart's ligament there has so far been no evidence of a hernia there.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Blood Glands as Pathogenic Factors in the Production of Diabetes and Obesity.—Leucocythæmia with Change of Type from Spleno-medullary to Lymphatic.

A MEETING of this society was held on Feb. 21st, Mr. R. J. GODLEE being in the chair.

Dr. ARNOLD LORAND made a communication on Blood Glands as Pathogenic Factors in the Production of Diabetes and Obesity. Dr. Lorand laid stress on the important influence exerted by the internal secretion of the blood glands on all the vital processes of the body and pointed out that the influence of the thyroid, the sexual glands, and the hypophysis was in the direction of increasing oxidation. Inefficiency of these organs led to a diminution of oxidation. All blood glands stood in close relation to one another, pathological changes in one being followed by alterations in others. Extirpation of the pancreas in four dogs was followed by enlargement of vesicles and considerable increase in the colloid substance of the thyroid. The effects of increased colloid secretion were seen in cases of exophthalmic goitre in which the symptoms resembled those produced by the administration of large quantities of thyroid tablets. This condition of thyroidism, especially when it was associated with pathological changes in the pancreas, was likely to produce toxic decomposition of proteids and resulting glycosuria. The internal secretion of the pancreas was probably produced by the Langerhans islets which presented similarities in their structure to that of the parathyroids, the medullary part of the adrenals, and the interstitial cells of the testicles. The secretion of these islets was probably under the influence of a nervous mechanism and it was necessary to take this into account in explaining those cases of diabetes in which no pathological changes were found in the gland after death. Degeneration of the pancreas had been described in cases of Graves's disease and acromegaly associated with diabetes. Glycosuria was comparatively frequent in exophthalmic goitre but was unknown in connexion with myxœdema and in the latter condition could not even be produced by the ingestion of large quantities of grape sugar. Extirpation of the thyroid was followed by increase in the number, and perhaps new formation, of the islets of Langerhans in the head of the pancreas. Moreover, the glycosuria had disappeared in the case of three diabetic dogs from which the thyroid gland had been removed. In all states of hyperthyroidia, whether due to infectious diseases, mental shock, or other causes, there was not only frequently glycosuria but also loss of weight. On the other hand, in athyroidia obesity was frequent. Extirpation of the sexual glands led to similar results with regard to obesity and it was noticeable that the formation of fat was common as a sequel to frequent pregnancies and prolonged lactation. After the menopause the thyroid and the hypophysis showed interstitial changes with fatty degeneration of the epithelial structures. Moussu, Babes, and others had shown that after extirpation of the thyroid and the ovaries breast milk was very rich in fat and very poor in sugar. Obesity had been associated with tumours of the hypophysis even in the absence of symptoms of acromegaly. The cases of obesity caused by degenerative changes in the blood glands—endogenous obesity—were clinically different from those caused by over-feeding—exogenous obesity. Glycosuria was rare in the former but frequent in the latter class. If the pancreas only was degenerated, as was sometimes the case in old people with arterio-sclerosis, the glycosuria was slight, but if the pancreatic change was combined with very active thyroid secretion, as in young persons, the glycosuria was likely to be severe. In 20 cases of diabetes the serum of sheep which had undergone thyroidectomy had given good results. In the treatment of obesity in women ovarian extracts should be used as well as thyroid gland.—Dr. F. W. PAVY referred to the question of the occurrence of diabetes in association with myxœdema and although he could not remember having met with such a combination in his own experience cited the reports of three cases in children which he had found in the Journal of the Philadelphian Medical Society. His own experiments tended to show that the internal secretion of the pancreas promoted the assimilation of carbohydrates and that sugar passed through the circulation in a combined form in healthy animals.—Dr. H. BATTY SHAW suggested that it was possible for myxœdema and exophthalmic goitre to occur together in the same patient.—Dr. LORAND replied.

Dr. C. H. MELLAND reported a case of Leucocythæmia with change of type from the spleno-medullary to the lymphatic. A woman, aged 35 years, came under observation in June, 1904. The symptoms of general weakness dated from Christmas, 1903, and about two months later a swelling had been noticed in the abdomen. On examination the spleen was found to occupy the whole of the left side of the abdomen but there was no evidence of enlargement of lymphatic glands. The most noticeable feature in the examination of the blood was the large increase in the number of large lymphocytes which at first were as numerous as 46 per cent., and later as 83 per cent., of all the white cells. In six other cases he had found the average to be about 14 per cent. The myelocytes formed at first 22 per cent. and later 4 per cent. of the leucocytes. In spite of treatment the patient died on Sept. 17th. Post mortem the spleen weighed 26 ounces, the liver showed small aggregations of white cells, and the lymphatic glands no enlargement or evidence of hyperactivity. The bone marrow contained very few eosinophilic or neutrophilic myelocytes and consisted almost entirely of non-granular cells similar to the large lymphocytes of the blood. Dr. Melland had come to the conclusion that the large lymphocytes really represented myelocytes which had undergone retrograde changes and he had been able to trace all gradations from large cells with no true granules, but with a certain amount of basophilic stippling, up to the typical neutrophilic myelocyte. He was inclined to regard his case, therefore, as a pure but acute spleno-medullary leucocythæmia and not one in which the spleno-medullary and lymphatic types were mixed.—Mr. L. S. DUDGEON referred to the important part played by the hæmolymph glands as well as the bone marrow in these cases and said that he had sometimes found the thymus much enlarged. He preferred the terms myelæmia and lymphocythæmia to those used by Dr. Melland and emphasised the difference in the blood conditions found in the two varieties.—Dr. F. PARKES WEBER referred to another case of acute leukæmia which he was about to publish and which tended to confirm Dr. Melland's views with regard to the derivation of the large non-granular cells in the blood. In the terminal stages the white cell count fell to 3000 per cubic millimetre and all these presented the characters of large lymphocytes.—Dr. R. HUTCHISON asked whether Dr. Melland had formed an opinion as to the possible origination of the smaller lymphocytes from the same source as the myelocytes and expressed the opinion that the case reported confirmed the fact that the frontiers between the different forms of leucocythæmia were very ill defined.—Dr. H. BATTY SHAW agreed with Dr. Melland and the latter replied.

LIVERPOOL MEDICAL INSTITUTION.

Modified Eye Speculum.—Internal Hydrocephalus.—Addison's Disease.—Union of Divided Nerves.

A MEETING of this society was held on Feb. 16th, Dr. JAMES BARR, the President, being in the chair.

Mr. RICHARD WILLIAMS exhibited and demonstrated the particular advantages of a Modified Eye Speculum.

Dr. T. R. GLYNN and Dr. E. E. GLYNN brought forward a case of Internal Hydrocephalus in which the symptoms simulated those of intracranial tumour. The patient received a blow on the head in 1898 which caused temporary loss of consciousness. Gradually symptoms of cerebral tumour developed and these symptoms continued until

June, 1903, when clear fluid commenced to flow from the right nostril and very soon improvement set in, followed by complete recovery in the course of a few weeks.—Mr. F. C. LARKIN, Dr. R. CATON, Dr. W. B. WARRINGTON, Dr. F. A. GILL, Dr. R. J. M. BUCHANAN, Dr. J. HILL ABRAM, and Mr. W. THELWALL THOMAS discussed the case.

Dr. A. G. GULLAN read notes of two cases of Addison's Disease in which he had administered Suprarenal Extract. In the first case, that of a young man, in whom the symptoms of the disease were well marked, 15 grains of the extract were given thrice daily but with only temporary relief, the patient dying seven weeks later. At the post-mortem examination no signs of tubercle were found except in the suprarenal bodies which were both enlarged and destroyed by caseous masses evidently of a tuberculous nature. In the second case, that of a woman, the symptoms were less severe and she had benefited greatly by taking 20 grains of the extract thrice daily.

Mr. DAMER HARRISSON opened a discussion on the Union of Nerves after Division. He gave a short history of the subject, physiological and surgical. The more recent histological observations which support the theory of coalescence and the process of regeneration in the peripheral end of a divided nerve were described, together with the criticisms of Mott, Halliburton, and Edmunds. On the physiological side he advanced the view that the weight of evidence was on the side of the outgrowth theory and brought forward a series of observations made by himself and Professor F. Gotch after division and suture of the sciatic nerve in the rabbit which proved that sensation reflexes appeared first in the peripheral end nearest the point of suture and at later periods at the more distant points in the peripheral end. With regard to the motor response this appeared at an earlier date in proportion to the nearness of the division and suture to the muscles. These facts were difficult to explain by means of the coalescence theory and strongly supported the outgrowth theory.—Dr. ROBERT KENNEDY said that from the clinical point of view there was a well-established observation which the central theory of regeneration of nerves could not explain—namely, the early return of sensation after secondary suture of a divided nerve. Ranvier's view did not explain this rapid restoration, for, in the first place, unnaturally rapid growth of new nerve fibres from the central end would be required, as no sensation could be felt until the axis cylinders had reached the end organs. In the second place, there would be a difference of time in the reappearance of sensation accordingly as the section of the nerve was near or far removed from the end organs, which there was not. As regards suture of the nerve immediately after section, sensation took much longer to appear, and this was what would be expected, as time was required for regeneration of the new fibres in the distal segment. When suture was performed at a time remote from section the distal segment had had time to form its new nerve fibres. The only difficulty was to explain the very early passage of impulses across the plane of suture, but this was probably brought about by the junction of neurilemma cells newly formed from the central and peripheral ends, the gap being thus bridged, the impulses apparently having the power to pass along the protoplasm of such cells. The reason why motion recovered later than sensation was owing to the rapid degeneration of the muscles after nerve section, which degeneration must first be recovered from. From observations made in the past few years Dr. Kennedy was of opinion that muscular tissue never completely degenerated, although separated from the nerve centres for long periods. A series of microphotographs were shown illustrating his views of nerve regeneration in the distal segment as opposed to the recent explanation advanced by Langley and Anderson.—Professor C. S. SHERRINGTON said that he favoured the peripheral rather than the central theory of nerve regeneration and remarked that after removal of a spinal ganglion delicate nerve fibres could be found in the portion of the root attached to the cord.—Dr. W. B. WARRINGTON called attention to certain alterations in the nerve cell which took place after section of its axone. In this condition, known as chromatolysis, the cells assumed the embryological form in preparation for renewed activity. Chromatolysis occurred in nearly all the cells of the spinal ganglia when the section was made on the peripheral side but not at all when the posterior root was divided. In the former case the nerve fibres regenerated but not in the latter. Similarly, after section of the anterior root nearly all the cells of the corresponding segment in the vertebral horn underwent chromatolysis and ultimately repaired, but after cutting off the incoming impulses by division of the posterior roots and thus producing a permanent isolation, some of the cells of the anterior horn atrophied and underwent complete degeneration. It was submitted that these experiments furnished evidence of the important part taken by the cell in the regeneration of a nerve fibre.—Mr. J. S. MACDONALD and the PRESIDENT also took part in the discussion.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Recurring Torsion of the Spermatic Cord.—Massage in Cardiac Dilatation.—Bradycardia.

A MEETING of this society was held on Feb. 1st, Professor JOHN CHIENE, the President, being in the chair.

Mr. J. W. DOWDEN read a paper on Recurring Torsion of the Spermatic Cord. It was based on five cases which had come under Mr. Dowden's own observation and on five other recorded cases. The varieties of this affection had been classified by Perry as (1) acute, where there was one sudden and severe attack; and (2) "recurring," where the attacks were more or less frequent with or without the eventual onset of an acute attack. The main predisposing factor was the manner in which the testicle, epididymis, and part of the cord were covered entirely by visceral tunica vaginalis and so hung free in the serous sac, giving rise to a condition of "floating testicle." There was also a broad arrangement of the cord with its constituents grouped in two parts, the vas deferens at one free border and passing to the globus minor, while the main vascular structures at the other free border passed to the globus major ("intermesorchial separation of the cord"). Puberty was a predisposing factor, as it was also in acute torsion. In six out of the ten cases the testicle was a descended one. Both sides were equally affected. The patients gave a history of attacks from time to time of sudden pain in the testicle associated with collapse, vomiting, and great local tenderness with (in a few hours) swelling of the testicle. Sudden relief of the severe symptoms occurred with the disappearance of the swelling in about 24 hours. Such attacks might go on for years. The condition could be distinguished from epididymo-orchitis by the suddenness of the onset and the severity of the collapse. After swelling had occurred in the scrotum a strangulated hernia might be simulated but pain followed in some hours by swelling was the main distinctive sign of torsion. A case of an infant, aged five months, and another of a child, aged three years, showed that recurring torsion might happen in infancy. The direction of the twist was ascertained in eight cases and in seven it was from without inwards and the twist varied from half a turn to two turns. The treatment in an attack was to perform detorsion and if this failed an immediate operation to untwist and to fix the testicle was required. In the interval fixation of the testicle should be carried out by clipping away the parietal tunica vaginalis and suturing the testicle to the scrotum.—Mr. DAVID WALLACE and Mr. ALEXANDER MILES took part in the discussion.

Dr. R. A. FLEMING read a paper on Massage, Passive Movements, and Modified Resisted Exercises in the Treatment of Advanced Cardiac Dilatation, in which rest and cardiac tonics had failed to yield further benefit. He thought that the exercises gave tone to the heart where it was possible for the myocardium to respond at all and they probably did so by dilating the vessels and relieving the over-burdened heart. Careful percussion of the cardiac right and left borders, taken along with the position of the apex beat, yielded accurate data as to the contraction of a dilated heart. The method of treatment consisted in successive periods of daily massage, followed from seven to ten days later by passive movements of the arms and legs and after other seven to ten days by resisted exercises. The patient was not allowed out of bed during the period of from 21 to 30 days and the exercises were limited, therefore, to those which could be performed in bed. Clinical details were given of ten cases, two of which were cases of aortic and mitral incompetence and in neither of these two was the treatment successful. In the remaining eight cases success followed the treatment, the patients were allowed up after the period of resisted exercises was finished and were made to walk slowly for a few minutes, and the period of active exercise thus taken was gradually lengthened

day by day. One of the eight patients speedily relapsed but with six the results were extremely satisfactory. Periods varying from two years to six months have elapsed since treatment was stopped and all the six retain the degree of improvement gained.—Dr. G. A. GIBSON said that resisted movements were in reality Ling's method. The value of massage could not be over-estimated and Ling's exercises did marvellous good and increased the field of cardiac response.—Dr. WILLIAM RUSSELL thought that the term "apex beat" was most unfortunate because the presumption was that it was caused by the left ventricle. The "apex beat" was not caused by the true apex of the heart in the cases referred to so that the only safe guide as to the size of the heart was percussion.

Dr. GIBSON contributed a paper on Bradycardia. He said that this condition had been described by many writers, as by Morgagni, who recorded two examples in 1762, by Stokes, by Charcot, and by Huchard. Then Broadbent had described paroxysmal bradycardia associated with apoplectic or epileptiform attacks. The condition had also been treated of by McKenzie, His, Osler, and others. After an enumeration of many exoteric causes Dr. Gibson said that of the esoteric causes the intrinsic factors concerned with the heart often led to bradycardia. There were cases in which the whole heart participated in the lessened rate, where probably the venous sinuses have lost some of their irritability. In other cases the auricular portion of the heart beat two or three times for each ventricular systole. Several instances of this have been proved by simultaneous tracings from the jugular veins and the apex beat or radial pulse. In certain of these neither the apex beat nor the radial pulse showed the least sign of any movement corresponding to the auricular systole, but in other tracings there were little impulses corresponding to the auricular systole. There were two chief varieties of the affection, in one of which the alteration in rate was constant while in the other it was paroxysmal, though the one variety might pass into the other. The clinical features might be inconspicuous or might be very disturbing. In the mild form of persistent bradycardia there were weakness and breathlessness with occasionally angina. In the paroxysmal form faintness and giddiness associated with apoplectic or epileptic attacks were present. In many cases digestive disturbances were found and more rarely glycosuria or some other symptom pointing to bulbar disease. In the persistent form of the affection it was probable that the great factors which induced the condition were myocardial and arterial lesions while in the paroxysmal form changes in the cerebral vessels were probably the causal factors. In sclerosis of the cerebral vessels the blood-supply to the brain was inadequate to meet any stress and ineffective when the stress went beyond a certain point. Thus a condition of irritable weakness of the inhibitory mechanism was produced and impulses were sent down to the heart which led to an attack. As regards treatment, rest was the most important therapeutic agent. Respiratory exercises were also of real importance and of course attention to digestion was required. Amongst drugs, iodides and hydriodic acid were most beneficial in attempting to restore a healthy condition of heart and vessels; nitrites or nitroglycerine were useful if there was any tendency to vascular spasm; bromides were good in lessening the action of the vagus, while strychnine and digitalis or strophanthus were of value where cardiac failure threatened.—Dr. JAMES MACKENZIE (Burnley) and Dr. RUSSELL took part in the ensuing discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Physometric Uterus.—Cystic Endometritis.—Bossi's Dilator.

A MEETING of this section was held on Feb. 3rd, Dr. ALFRED J. SMITH, the President, being in the chair.

The PRESIDENT showed a rare specimen—a large Physometric Uterus. The patient was delivered early in October, 1904, of twins (at the sixth month), both dead and beginning to decompose. On the fourth day after delivery she had a severe rigor, with a temperature of 106° F. Her medical attendant washed out the uterus with a weak corrosive sublimate solution. Notwithstanding this, her condition became worse. On admission to St. Vincent's Hospital, Dublin, she was in evident distress from distension, with a temperature of 102·6° and a pulse rate of 120. Examination under ether was unsatisfactory, as nothing could be mapped out. The diagnosis was not made until the abdomen was opened. Numerous discoloured gangrenous-looking patches were found and hysterectomy was performed, fortunately without rupture. Examination of the contents was postponed as the President wished to show the large uterus in its distended condition. The patient made an uninterrupted recovery.—Dr. FREDERIC W. KIDD asked how the gas had been kept in the specimen? The only similar case he had seen was an accumulation of gas inside a gestation sac. The patient came into hospital three months pregnant, with symptoms of threatened abortion. The symptoms abated and she went out. He saw her again 13 months after the presumed commencement of the pregnancy. The whole of the front of the abdomen was perfectly dull. A rectal examination was made and next day her temperature was 104° and the abdomen was very resonant. An operation was performed and it was found that there had been a primary rupture into the layers of the broad ligament and the gestation sac had gone on developing. There was an escape of very offensive gas on the sac being opened. The patient made a good recovery and had had two children since. The only explanation he had for the formation of the gas was that the bacillus coli communis had got into the gestation sac on account of the rectal examination.—Dr. RICHARD D. PUREFOY said that most of them had seen the condition termed physometric in connexion with malignant disease, or in cases of delayed or neglected labour, where air had got into the uterus. The President's case was remarkable on account of the gas having remained in the uterine cavity.

Dr. PUREFOY read a paper on two cases of Cystic Endometritis with Remarks on Treatment.—Mr. E. HASTINGS TWEEDY said that cystic endometritis was a disease which he did not know personally and of which he could find no account. He objected to fresh nomenclature and thought it better to adhere to the term "glandular." His objection to the term "cystic" was that it did not lead anyone to a knowledge of what was being dealt with, whilst "glandular" did.—The PRESIDENT said that he divided endometritis into glandular and interstitial. There were two kinds of glandular endometritis—hyperplastic and hypertrophic. Hyperplastic endometritis was adenoma and in it there was an enormous increase in the number of glands; hypertrophic endometritis had a normal number of glands but they were greatly increased and distended and when occluded formed cysts. The hyperplastic cases frequently became malignant, therefore they had to be seen often and the uterus removed. The hypertrophic cases might be merely distended tubes or, if seen late, cysts. The treatment was to remove the mucous membrane mechanically and to try to cultivate a healthy mucous membrane. His practice was to curette and to wash out once and to wash out again on the third and fourth day to see that nothing was left behind. He used hot sterilised saline solution and did not employ any intra-uterine medications.

The PRESIDENT read a paper which indicated that Bossi's Dilator had not met with universal approval or adoption. He was, however, convinced that within certain well-defined limits it served a useful purpose. He had employed it in four cases—three of eclampsia and one of placenta prævia—all of which were successful. The entire time between the introduction of the dilator and the end of the third stage did not exceed one hour. In the case of placenta prævia there was an extensive laceration of the cervix requiring stitches. He considered Bossi's dilator to be dangerous when the cervix was long. The close proximity of the uterine sinus added a new danger should the laceration unfortunately extend to or open them up.—Dr. KIDD said that one disadvantage of Bossi's dilator had been met by changing the number of blades from four to eight, thus having eight points of pressure on the lower zone of the uterus and less probability of rupture. Another objection was that the angle at which the dilator was set to the shaft was not the angle at which dilatation would take place. Seigneux tried to meet this objection in his dilator but it had its disadvantages also.—Dr. FITZGIBBON said that he had used Bossi's dilator in a case in which he had induced labour at seven and a half months. He commenced by using bougies but the uterus took on no action and they were introduced again on the following day. The membranes had then ruptured and the

following morning he decided to dilate the cervix, into which he could introduce two fingers. He dilated up to seven centimetres. He did not intend to complete delivery and left the patient, having put some gauze in the cervix. Labour began in three hours and she was delivered three hours afterwards. He considered that labour had been induced by mechanical dilatation which started uterine action.—Mr. HASTINGS TWEEDY said he could hardly think that dilators had been responsible for saving even one woman. Medical papers nowadays teemed with the praises of mechanical dilatation of the cervix in the treatment of eclampsia. He had treated within the last 15 months ten cases of puerperal convulsions in the Rotunda Hospital with one death; in this case the diagnosis of eclampsia was doubtful. In a large number of cases of puerperal convulsions it was observed that the convulsions became severe after the birth of the child, so that the emptying of the uterus could not be considered a panacea. As to the dilator's usefulness in ante-partum hæmorrhage due to placenta prævia he must dissent from the views of those who recommended its employment. The treatment by dilatation could never compare favourably with the plan of bringing down the leg and leaving the case to nature. The cervical epithelium was bruised during the process of forcible dilatation and such bruising predisposed to sepsis. There was one class of case in which he thought the dilator was sure to be applied, "rigid os," but its use in such cases was sure to be repented of. Bossi himself counted the condition as a contra-indication.

SECTION OF STATE MEDICINE.

Earth-temperature and Diarrhœal Disease.—Sicily as a Health Resort.

A meeting of this section was held on Feb. 10th, Sir JOHN W. MOORE, the President, being in the chair.

The PRESIDENT read a paper on Earth-temperature and Diarrhœal Diseases in Dublin during 1904. Having quoted the late Dr. Edward Ballard's views on the relation between a critical temperature of 56° F. at four feet below the surface of the ground and an epidemic mortality from diarrhœal diseases in late summer and early autumn, the President submitted and explained two diagrams showing a comparison between the death-curve from diarrhœal diseases in the Dublin registration area during the summer and autumn of 1904 and the earth-temperature records from the Normal Climatological Station which was established within the precincts of the University of Dublin by the Provost and Senior Fellows of Trinity College on Jan. 1st, 1904. The diagrams showed that in 1904 the diarrhœal mortality was trifling till the week ended August 6th, that is, the third week after the subsoil temperature at four feet had passed above 56°. The mortality increased week by week until 35 deaths from diarrhœal diseases were registered in the week ended August 27th, that is, about 10 per cent. of all the deaths from those diseases (339) registered in the course of the whole year 1904. This maximum of mortality followed the maximum of warmth of the soil at four feet (58·5°) by an interval of just a fortnight. Such a coincidence was at least remarkable and might be turned to practical account as a warning that diarrhœal diseases were about to become rife whenever the earth thermometer at four feet rose to 56°.—Dr. T. P. C. KIRKPATRICK said that the chief interest and value of the observations was to give an indication of the onset of these attacks of summer diarrhœa in children to the authorities who could then take precautionary measures and give timely warning of its approach. This was possible, owing to the interval which elapsed between the rise of the earth-temperature to the critical line of 56° and the incidence of the diarrhœa. He did not think that there was sufficient evidence to show that the rise of the temperature to the critical line and the summer diarrhœa were connected causally. It was more probable that the earth temperature reached a certain height only during conditions when epidemic diarrhœa was liable to arise also and there was probably an organism which could develop when the earth temperature had been at a sufficient height for a certain length of time.—Dr. JAMES CRAIG said that in his opinion the heightened temperature tended to increase putrefaction and that flies had a great deal to do with carrying the infection. People who were careful with regard to their food were rarely affected with summer diarrhœa.—Dr. W. LANGFORD SYMES spoke in support of the view that there was a multiple series of factors producing these diseases. The mortality due to these causes was greater among children than among adults and perhaps a milk diet accounted for that.—Dr. NINIAN MCI. FALKINER said that he would like to call attention to the nomenclature of these so-called diarrhœal diseases. Some years ago numerous cases were returned as gastro-enteritis, enteritis, and muco-enteritis, and it soon became evident that these terms were loosely used. A special committee was appointed the net result of whose labours was that these three divisions were all placed amongst the local diseases of the digestive system.—Dr. ROBERT B. MCVITTIE, Dr. J. A. MATSON, and Dr. WILLIAM A. WINTER also took part in the discussion.

Dr. PARLATO of Palermo communicated a short paper on Sicily as a Winter Health Resort.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

A meeting of this society was held on Feb. 3rd, Mr. C. M. Tuke, the President, being in the chair.—Mr. J. D. Malcolm read a paper on Extra-uterine Fœtation and divided his observations on the subject into, firstly, a short description of the natural history of the condition; secondly, the points on which a diagnosis might be founded; and thirdly, the indications for treatment. Mr. Malcolm said that in a large number of cases of extra-uterine fœtation a fairly certain diagnosis was possible from the history of the case alone. As a rule menstruation was delayed for a week or two, or even a month or two, and then came on irregularly, but cases were recorded where there had been amenorrhœa during the whole period of extra-uterine fœtation. If, in addition to the irregularity just mentioned, a woman was seized by a sudden pain in the pelvis with symptoms of collapse suspicion of extra-uterine fœtation became almost a certainty. Severe hæmorrhage might occur before the patient had missed a period, in which case examination yielded but little information, as the fœtal sac was small and the escape of blood made the parts so soft that they could hardly be felt. If the blood escaped into the broad ligament the uterus would be dragged and pushed upwards to the healthy side but if the blood escaped into the peritoneal sac it was very difficult and sometimes impossible to detect it. There might, therefore, be only the symptoms to indicate the condition. These were severe pain, vomiting, hæmorrhage, and collapse. Under these conditions a definite diagnosis between a ruptured Fallopian tube and a strangulation or ruptured viscus was impossible except by opening the abdomen. Later, when a gestation sac could be felt or when a clot formed physical examination was important. When progress had advanced so far that the fœtal parts might be defined there should be no difficulty in diagnosis. With reference to treatment Mr. Malcolm said that when profuse hæmorrhage was diagnosed there should be no delay in operating. The more serious the condition of the patient the more urgent was the necessity for operative interference. The bleeding vessels were generally and most quickly secured by removing the ovary and the tube. If symptoms were not urgent the patient should be kept absolutely quiet in bed and arrangements for an immediate operation made should hæmorrhage recur. If there was no further hæmorrhage but a growing mass was found in the pelvis operative treatment should be resorted to but if a mass remained without any change of size a further period of rest should be insisted upon. A considerable proportion of such cases would get well without surgical interference. When pregnancy was more advanced, and it was diagnosed that there was a living fœtus developing outside the uterus, an operation should be undertaken without delay. If the fœtus died when pregnancy was fairly advanced and there were no urgent symptoms the question of operating might be open to discussion.—Dr. J. A. Mansell Moullin could not accept Mr. Malcolm's views as to the treatment of cases where a hæmatocele had formed and considered that in all cases of pelvic hæmorrhage an operation should be undertaken without waiting for the patient to recover after a lingering convalescence, with the danger of recurring hæmorrhage or suppuration. Dr. Moullin advocated waiting for the death of a fœtus, when approaching maturity, before operating.—Dr. G. H. Drummond Robinson agreed with Mr. Malcolm in his view that operation was not called for in every case of extra-uterine pregnancy in the early stage.—Dr. Septimus P. Sunderland asked Mr. Malcolm in what proportion of cases under his notice he had observed that there had been no absence of menstrual flow. In his experience

the menses occurred regularly during the early months of extra-uterine gestation.—Mr. Malcolm replied to Dr. Sunderland by saying that he was quite sure that menstruation was not always in abeyance until the tube ruptured.—Dr. F. J. McCann delivered an address (illustrated by a large series of lantern slides) on the Early Diagnosis of Cancer of the Neck of the Womb. A short description was given of the normal anatomy of the cervix and the importance of the "transitional area" (i.e., where the squamous epithelium covering the vaginal portion joined the columnar epithelium lining the cervical canal) was especially emphasised as the starting point of malignant growths. The subject was considered under two headings: (1) cancer affecting the vaginal portion (portio vaginalis) and (2) cancer affecting the cervix proper. This distinction, however, was only possible in early examples of the disease, for advent of ulceration altered the relationship of the different parts of the cervix. Three clinical types of cancer of the vaginal portion of the cervix occurred. 1. The papillomatous or polypoid type, where a sprouting growth extending upwards into the vaginal canal originated by a somewhat broad base from the margin of the external os uteri. In this class was included the so-called cauliflower excrescence. 2. The infiltrating type, where the tissue of the vaginal portion was infiltrated with cancerous growth, one or both lips of the cervix being affected. 3. The superficial flattened type prone to early ulceration. Here the growth crept over the surface of the vaginal portion, and as there was a tendency to early ulceration a true malignant ulcer in an early stage was seen. Two special types of cancer affecting the cervix proper might be identified: (1) superficial carcinoma of the mucous membrane of the cervix proper, characterised by the growth of papillomatous masses of different sizes in the interior of the canal, followed later by ulcerative changes which hollow out the cervix and produce the characteristic crateriform ulcer; and (2) the infiltrating type where the walls of the cervix were infiltrated in part or in their entirety with cancer. This last type tended to spread rapidly to the lymphatics and hence was frequently discovered when it was beyond hope of eradication. The early signs of cancerous disease were discharge and hæmorrhage. Discharge was the first sign but hæmorrhage was the sign which prompted the patient to seek advice. It would be found that careful inquiry into the history of early cases would elicit the fact that an alteration in the quality and quantity of the leucorrhœal discharge was observed before any bleeding had occurred. For this reason all cases of discharges or atypical bleeding should be carefully examined and the os uteri inspected through a speculum. The signs elicited on examination were as follows: (1) friability, a sign of great importance which could be tested by the finger nail, the curette, the uterine sound, or a long probe; if there be much fibrous tissue present in the growth friability may be entirely absent; (2) the occurrence of bleeding, the amount of which was entirely out of proportion to the extent of the injury inflicted; and (3) the definite occurrence of new growths from the surface of the cervix, from the lining of the cervical canal, or in the substance of the cervix. The most common pathological changes in the cervix which might be confused with cancer were as follows. 1. Erosion. In the common erosion there was no ulceration. It surrounded the os externum; the edge was not sharply defined but faded away into the surrounding mucous membrane. Epithelial islets and plugged follicles might be noted on the surface and there was no infiltration of the base. 2. Chronic cervical catarrh in elderly multiparæ associated with fissures and hypertrophy of the cervical walls. The examining finger passed into the patulous cervical canal the lining of which was rough and furrowed with thickened hard cervical walls. On withdrawing the finger blood might be seen upon it. Per speculum the mucosa of the cervix was smooth, shining, bright red, with total absence of any ulceration. It was only by firm pressure of the finger or the sound that bleeding from the surface occurred, and, above all, neither the sound nor the sharp curette could detach pieces from the cervical lining. If still in doubt the microscope could be used. A full description was given of the different varieties of ulcer met with in the cervix. The differential diagnosis from polypi and small myomata, distended follicles, &c., was given.—Dr. Drummond Robinson pointed out that one of the most trustworthy signs of early cancer was the presence of friability of the suspected tissues.—Mr. Donald J. Armour asked Dr. McCann whether in cancer of the vaginal portion of the cervix he always performed a panhysterectomy or was satisfied with supravaginal amputation.—Mr. Cecil H. Leaf wished to know Dr. McCann's opinion as to how much importance he attached to the presence of ulceration, as he did not consider it a trustworthy guide.—Dr. McCann emphasised Dr. Robinson's remarks as to the importance of friability being an early sign. In reply to Mr. Armour, he said that he was still in favour of supravaginal amputation of the cervix in early cases of cancer affecting the vaginal portion, whilst he preferred hysterectomy for other forms. In replying to Mr. Leaf he said that apart from traumatism a genuine ulcer of the cervix was malignant, tuberculous, or syphilitic, and as the last two were rare cancer should be suspected.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held in the Royal Infirmary, Arbroath, on Jan. 18th, Dr. Andrew Key, the President, being in the chair.—Dr. A. D. Yule read a paper on Some Symptoms and Sequelæ of Pyloric and Duodenal Ulcers. He referred specially to dilatation of the stomach as a sequel and gave particulars of two cases of excessive gastric dilatation due to obstruction produced by cicatrisation of ulcers near the pylorus. Medical treatment had no effect but complete recovery followed the operation of posterior gastro-jejunostomy performed by Mr. D. M. Greig. Notes were also read of the case of a woman, aged 42 years, who for many years had all the classical signs and symptoms of a gastric ulcer near the pylorus and whose persistent pain and frequent vomiting were not improved by medical treatment but were abolished by an exploratory laparotomy at which no evidence of any old or existing ulcer was found. Mr. Greig was again the operator and pyloroplasty was performed as there were moderate dilatation of the stomach and some degree of hypertrophy of the circular muscular fibres of the pylorus. Three months after the operation, however, the persistent pain, with exacerbations and occasional vomiting, returned. The case was most probably one of neurasthenia and it was considered that further surgical measures did not hold out much hope of permanent benefit.—Mr. Greig then read notes on a series of cases of Suprapubic Prostatectomy for Senile Enlargement. He pointed out that it was a mistake to consider the prostate as a trilobed organ, for it only became such as the result of pathological changes as in the hypertrophy of old age. He described the method of operation and indications for surgical intervention in over-distension of the bladder and showed specimens from ten operations.—Various cases were shown by Dr. W. J. Dewar, Dr. J. D. Gilruth, Dr. D. Laing, and Dr. J. D. Duncan.——A meeting of the society was held in the School of Medicine, Dundee, on Feb. 2nd, Dr. J. Rorie being in the chair.—Dr. W. E. Foggie read notes of a report on the Incidence of Rickets amongst the children who had attended the medical out-patient department of the Dundee Royal Infirmary during the past year when he was in attendance two days during each week. Amongst 463 children examined beading of the ribs was present in 75 per cent. and enlargement of the wrists in 23·3 per cent. The percentage of changes in the shape of the chest and of the long bones was but small. Though rickets was thus widely spread the type of the disease did not seem a very severe one, this being proved by the fact that "flat pelvis" was not met with to any great extent in obstetrical practice.—Dr. J. S. Y. Rogers read notes on three cases of Infective Arthritis occurring after Influenza. He remarked that the literature on the subject was very meagre but the subject was worthy of further investigation. The cases were similar in that all were influenza of the gastro-intestinal type and several other persons in the same three households as the patients were affected. The first and second cases were those of boys who developed acute inflammation in one wrist-joint six days after the onset of the illness and this quickly passed into suppuration. The treatment consisted in incision, washing out the joint with carbolic acid solution of strength of 1 in 40, and dressing with double cyanide gauze. Recovery was rapid but considerable stiffness remained in the joint for several weeks. The third case was that of a man, 50 years of age, who on the fourth day of his illness developed swelling and tenderness of the right wrist which afterwards became very red and discoloured with considerable swelling of the peri-articular tissues and showed every sign of suppuration. Incision did not reveal any pus but a quantity of blackish blood-stained fluid escaped with

pieces of necrosed tissue. This was examined bacteriologically but the result was negative. The patient made a good recovery but very considerable stiffness remained in the joint. Dr. Rogers considered that there were two distinct forms of infective arthritis. The first variety was seen in typhoid fever and scarlet fever where a swelling of the large joints simulating acute rheumatism might take place. This condition passed off in a few days and did not go on to suppuration. In the second variety there was implication of one joint only which might be of the four following types: (1) slight transient swelling and effusion; (2) considerable effusion, which was at first turbid and then might be purulent; (3) involvement of the peri-articular tissues, with brawny swelling and reddening of the skin, suggesting suppuration; and (4) early suppuration, a destructive arthritis. The first variety might be due to the action of the specific micro-organism. The second variety was probably due to the action of ordinary bacteria of suppuration. The prognosis depended on the type of the disease. The first three types were favourable with regard to recovery, though there might be considerable stiffness of the joint following. In the fourth type the prognosis was very unfavourable, as a great many ended fatally within a short time.—Dr. J. Mackie Whyte showed a Placenta having Numerous Tubercles on the Amniotic Surface. The woman suffered from pulmonary tuberculosis of five years' duration. —Various patients were shown by Dr. E. F. M. Neave and Dr. Foggie.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on Feb. 8th, Sir J. Halliday Croom, Vice-President, being in the chair.—Dr. F. W. N. Haultain read a paper on a Clinical and Pathological Analysis of a Successive Series of 120 Abdominal Hysterectomies for Fibro-myomata. The operation was performed in 85 for bleeding, in 15 for size, in 13 for severe pressure symptoms, in 2 for reflex symptoms, in 3 for dysmenorrhœa, and in 2 for constant pain. The ages of the patients were in 2 cases between 20 and 30 years, in 28 between 30 and 40 years, in 80 between 40 and 50 years, in 8 between 50 and 60 years, and in 2 over 60 years. Of the eight cases between 50 and 60 years only one had reached the climacteric. The severe pressure symptoms included three cases of retention of urine, one case of cramp in the legs, and one of pressure on prolapsed ovaries. Reflex symptoms were illustrated by a case of violent laryngismus stridulus and one of persistent vomiting, both cured by the operation. The effect of fibroids on childbearing was shown thus: of the 120 cases 71 were married and of these 42 were absolutely sterile and the remaining 29 had an aggregate of 78 children. But the average age of the youngest child before the patient was operated on was nine years; this proved convincingly that fibroids had a sterilising effect on the patient. Dr. Haultain tabulated the pathological characters of the fibro-myomata as follows:—1. Of the uterine body.—Simple fibro-myomata, 63: (*a*) multiple, 54; and (*b*) single, 9. Degenerated, 20: (*a*) œdematous, 12; (*b*) red degeneration or infarction, 1; (*c*) cystic, 2; (*d*) calcified, 1; (*e*) sarcomatous, 2; (*f*) teleangiectatic, 1; and (*g*) diffuse nodular fibrosis, 1. Complicated with other growths, 24: (*a*) adeno-carcinoma of the body, 5; (*b*) mucous polypi, 9; (*c*) cystic ovarian tumours, 6; (*d*) solid ovarian, 1; and (*e*) broad ligament cyst, 3. Complicated with pregnancy, 3. Complicated with marked ascites, 1. 2. Of the cervix, 7: (*a*) single, 6; and (*b*) multiple, 1. 3. Of the body and cervix combined, 2. The hard and slow growing were mainly fibrous, while the soft rapidly growing had a large proportion of muscle in their composition. The blood-vessels had a primitive character of the nature of sinuses, producing thus a sluggish circulation in the growth and predisposing to secondary changes. Of the three cases associated with pregnancy, hysterectomy was performed in one case at the third month, and in the other two at the fourth month. The reason for operation in two cases was severe continuous pain and pressure symptoms. Unless urgent symptoms manifested themselves pregnancy should, in the majority of cases, be allowed to continue, but if interference became necessary hysterectomy was preferable to the production of abortion. The method of operation was the sub-total or supravaginal in 105 cases and panhysterectomy in 15 cases owing to cervical involvement or associated malignancy. Dr. Haultain's preference for the supravaginal method was due almost entirely to the fact that it was simpler to perform and thus quicker and safer. The supporters of the pan operation referred to a possible chance of a subsequent malignant growth forming in the cervix; but the chance of this was infinitesimal. In operating, Dr. Haultain first clamped the vessels and after removal of the tumour tied them. He left the cervical stump as it was cut, not making any flaps to cover over the raw surface; the cervical canal acted as a drain. The layers of the broad ligament were carefully apposed by continuous silk sutures. He preferred sponges to swabs; they were softer and kindlier to the peritoneum, were more absorbent, and were more easily counted. He prepared them with a very strong solution of carbonate of soda and afterwards kept them in carbolic lotion. During the operation they were washed in cold and then placed in hot sterile water. He used the through-and-through method of stitching the abdominal wound and with silkworm gut. The patient was in the Trendelenburg position during the operation. The patient after the operation was permitted to lie in any position in which she might feel most comfortable. After the chloroform sickness tea, soups, and liquid nourishment were given. The bowels were moved on the third day, after which a plain diet was allowed according to fancy. Three of the 120 cases died. One never rallied after the operation (supravaginal) owing to her extreme anæmia. The other two died after the pan operation from sepsis; one the result of the infection of the tumour bed by the bacillus coli through the bared rectum, from which the large posterior cervical fibroid was separated, and the other was due to peritoneal infection from a sloughing growth involving both body and cervix uteri. In all cases of subperitoneal and interstitial fibroids which gave rise to symptoms and reduced a patient's health and comfort, hysterectomy should be performed if she was under 45 years of age. Hysterectomy should be performed at any age when the symptoms were urgent if myomectomy could not readily be performed. If no symptoms were present then no treatment was necessary and it was unwise to acquaint the patient of the presence of the tumour.—Dr. J. Haig Ferguson, Dr. J. M. Munro Kerr (Glasgow), Dr. J. W. Ballantyne, Dr. S. Macvie, Dr. J. B. Hellier (Leeds), Dr. W. Fordyce, Dr. J. L. Lackie, Dr. M. Campbell, Dr. J. Ritchie, and Sir Halliday Croom discussed the paper and Dr. Haultain replied.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on Feb. 9th, at which Dr. G. A. Sutherland read a paper on Lobar Pneumonia in Children. He referred to the valuable information to be obtained by a study of the child's expression and breathing. The expression of the face was much more placid in lobar pneumonia than in catarrhal pneumonia owing to the obstructive conditions present in the latter. The breathing in lobar pneumonia was rapid, superficial, and often of inverted respiratory type. The increased movement of the alæ nasi usually consisted of an expiratory and not an inspiratory dilatation and was due to forcible expiration. He reviewed the clinical symptoms of three leading types of pneumonia—the cerebral, the gastro-intestinal, and the renal—in which all through the disease the pulmonary condition might remain unsuspected. Renal cases might present as the leading symptom hæmaturia or general dropsy. The treatment in ordinary cases was practically that of a specific fever. Coughing, fever, sleeplessness, and pain were symptoms which might call for treatment. As a rule the pre-critical stage was the period of greatest severity and cardiac tonics and leeching were the best remedies at this time.—Dr. Guthrie thought that lobar pneumonia was better recognised now, being less fatal than broncho-pneumonia. He thought that the facies was anxious, not apathetic and placid, the breath being held on account of pain. He believed that central pneumonia with distant tubular breathing occasionally occurred. He remarked on pseudo-crises. Strychnine should be pushed where required.—Dr. James Taylor also thought that the expression was mostly anxious. Digitalis when given should be started early in the disease. Empyema was more common after lobar pneumonia than after the catarrhal form.—Dr. A. Morison thought that the fever should be treated if high and not allowed to run riot as it affected the circulatory system. Ice to the head was soothing and a useful antipyretic. Bleeding was at times useful at the onset. He also thought that strychnine was a drug that should be pushed when needed. Digitalis he did not use. Turpentine was useful when there was much secretion in the

tubes.—Dr. E. Cautley was accustomed to differentiate between children and infants in speaking of pneumonia in childhood. The possibility of otitis media as a complication, often unaccompanied with pain, should always be remembered. Bleeding in children was rarely necessary and he doubted the advantage of using the ice-bag.—Dr. Sutherland replied.—Mr. E. Laming Evans read a paper on Anterior Metatarsalgia, with notes on seven cases. An analysis of these seven cases showed that the fourth metatarso-phalangeal joint was affected in all and the third in two cases. All the cases occurred in women, six in private and one in hospital practice, in this agreeing with all previous records. No injury, or sudden onset, or rupture of the transverse ligament, was present. The longitudinal arch was depressed in three cases and the transverse arch in three. The fashionable narrow-pointed shoe was considered to be responsible for an aggravation of the mischief, if not the actual cause of it. Five of these cases had been dealt with by palliative measures, with partial relief of the symptoms, and two by excision of the head and the neck of the fourth metatarsal bone with complete removal of the pain and with a sound functional foot, without any weakening. Mr. Evans advocated that palliative measures should be tried in the first instance, but if these failed, that removal of the head of the metatarsal bone should be performed with a good chance of removing the disease and without fear of weakening the foot.—Mr. J. Jackson Clarke had not operated on these cases during the last five years. The general health should be improved and much attention paid to shoes. He advocated the use of steel plates in the boots carefully made after taking a plaster mould or model of the foot. Metatarsalgia was often a symptom of flat-foot. Patients were often markedly irritable with this condition.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Feb. 10th, Dr. J. F. J. Sykes, the President, being in the chair.—Dr. G. F. McCleary read a paper on the Reform of the Milk-supply, in which he urged its municipalisation on the lines suggested by Dr. Edmund Cautley and Mr. Lawson Dodd or by Dr. W. Leslie Mackenzie. Sanitary progress during the nineteenth century had been mainly concerned with civic cleanliness, sewerage, scavenging, house construction, and water-supply, but of late personal cleanliness or hygiene had been attracting attention in the control of food-supplies, infectious diseases, overcrowding, and like questions. Few of these were of greater importance than that of the milk-supply, which, as Dr. A. Newsholme had shown, was answerable for a large part of infant and child mortality, directly or indirectly. The conditions under which milk was produced, conveyed, and distributed were for the most part defective and antiquated when not actually filthy and dangerous. The rural sanitary authorities on whom devolved the duty of inspecting the cowsheds were apathetic, if not worse, and the county councils were little better. Only by acquiring powers to extend their activities beyond their boundaries could the urban authorities protect the interests of the great majority of the consumers. This had been done on the largest scale in the matter of water-supply and on more restricted lines in respect of sewerage works, isolation hospitals, &c. The corporation of Manchester had through the efforts of Dr. James Niven obtained powers under the milk clauses of a local Act which had proved of great value. But inspection could do no more than prescribe, prohibit, and prosecute, it could regulate but could not alter character, habit, economic conditions, and in each of these, from the cowshed in the country and the cowman's cottage to the shop and trolley in town, there was need of radical change. He wished to see cowsheds abolished and milk drawn by clean men into clean vessels and after being chilled sent up and sold in clean stoppered bottles without any rise in price. This could be achieved only by the entire control and if possible the production of the milk-supply being entrusted to municipal councils or elective boards having exclusive privileges over certain districts, as was the case with sewerage and drainage and the supply of gas, water, and electricity; or if that were found impracticable they might open model dairy farms and milk shops which should serve as object lessons to others. This, however, would not meet the difficulty of the price of milk which in any industry conducted for profit must be affected by a serious increase in the cost of production.—Dr. Philip Boobbyer took a practical interest in the milk question and was in favour of a progressive policy when he could see a limit or a goal, but municipal indebtedness had reached such vast dimensions that they ought to consider seriously proposals for embarking on undertakings that could, even though less perfectly, be carried on by private enterprise, and it was not politic to do so at a loss, throwing the burden on the ratepayer. One large borough had suspended *sine die* the scheme for an abattoir for which the estimates had been obtained and the site secured on account of the cost, £25,000.—Mr. J. Sadler (secretary of the Cheshire Milk Supply Association) pointed out that the conditions of the production of milk in scattered farms over wide areas were totally different from those of the manufacture of gas or generation of electricity in large central buildings. Reform should be directed to the education of all engaged in the work, the coöperation of farmers, collectors, and dealers, and stricter supervision of the carriage provided by the railways. The local authorities should enforce the Cowshed and Dairies Orders, throwing the responsibility and expenses on the owner rather than the occupier.—Mr. J. Nugent Harris (secretary of the Agricultural Organisation Association) testified to the good effects of education, moral suasion, and coöperation and said that to obtain clean milk our farmers should treat their cows with the same individual attention that they gave to their horses.—Mr. J. Tubb Thomas and others deprecated municipal action, while several gentlemen, mostly visitors, defended it, urging against collection by companies the difficulty of tracing the source of epidemics when milks from many farms were mixed.—Dr. E. F. Willoughby, speaking from an experience of 20 years, condemned municipalisation as futile and impracticable. He entirely agreed with Mr. Harris and Mr. Sadler. These and other speakers had shown them what improvement could be brought about by strict inspection under existing conditions.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Feb. 13th, Professor R. Muir, the President, being in the chair.—Dr. John Anderson showed as a fresh specimen an Abscess of the Brain accompanied by leptomeningitis due to the pneumococcus.—Dr. J. Lindsay Steven showed a girl, aged two years, suffering from Enlargement of the Spleen and the Liver, possibly Splenic Anæmia. The illness was of eight months' duration. The enlargement of the liver and the spleen was considerable. The blood condition was similar to that seen in the splenic anæmia of adults: red corpuscles 3,900,000, hæmoglobin 35 per cent., leucopenia (about 2000) with relative decrease of the polymorphonuclears. There were no symptoms of ill-health except irritability, the child being fairly well nourished, not anæmic and not jaundiced. There was no enlargement of the lymphatic glands. Another member of the family had died after a similar illness.—Dr. J. Crawford Renton showed or read notes of a series of cases: (1) A case of Cholecystenterostomy; (2) cases of Excision of the Elbow-joint to remedy the effects of a fracture in the neighbourhood; (3) a case of Kader's Gastrostomy for œsophageal stricture; (4) a case of Laminectomy for paralysis of the legs due to tuberculous disease of the vertebræ; and (5) demonstration of Luys's Urine Segregator.—Dr. J. Kerr Love and Dr. J. W. Leitch described two cases of Intrathoracic Tumour and showed preparations and sections of the growths. In Case 1 the first symptom was pleurisy; then hoarseness, cough, and muco-purulent sputum developed; later hæmoptysis and paralysis of the left vocal cord. The growth involved nearly the whole of the left pleural sac and there were large masses in the left lung; there was very little mediastinal extension. Microscopically it presented the characters of an endothelioma and Dr. Love and Dr. Leitch were of opinion that it had originated from the pleura. The patient was a man, aged 32 years. In Case 2 the principal sign of disease was pain and swelling of the left arm supposed to be due to thrombosis. Latterly extreme dyspnœa developed. The growth was a small spindle-celled sarcoma. It was situated in the mediastinum in front of the trachea and for the most part above the bifurcation. It had extended round, and was invading, the walls of the trachea. The patient was a woman, aged 46 years.—Dr. W. S. Syme read notes of a case of Tumour ("Carcino-sarcoma") of the Thyroid and Dr. M. Logan Taylor described the histological characters of the growth. In parts the tumour presented the characters of a scirrhous carcinoma; in other parts it appeared to be a mixed-celled

sarcoma and where these met the two types of tumour overlapped and intermingled, producing the effect of a scirrhous carcinoma, the connective tissue stroma of which was undergoing sarcomatous development, which was destroying the carcinoma. The tumour was very curious and puzzling. The case would be reported in full detail.—Dr. G. H. Edington showed: (1) specimens of Ribs showing different Degrees of Thickening from cases of Chronic Empyema; (2) a Large Epulis from the Upper Jaw; and (3) a Parotid Mixed Tumour.—Dr. Edington also showed Photographs of cases of Carcinoma of the Mamma.—Dr. Anderson showed: (1) a Sarcoma of the Male Breast with recurrences; (2) a Malignant Cystoma (Papillomatous) of the Kidney, with microscopic sections of both as card specimens.

MEDICO LEGAL SOCIETY.—A meeting of this society was held on Feb. 14th, Dr. W. Wynn Westcott being in the chair.—Dr. A. G. Bateman of the Medical Defence Union opened a discussion on Privileged Communications and Professional Secrecy. Many certificates of health and of death were open to the public gaze; the privacy of the chamber of death was not respected by the press; indeed, our law courts to-day would not allow the oath of Hippocrates as a plea for secrecy. Judges at *nisi prius* trials had differed as to the rights and duties of medical witnesses. Personally he advised the exposure of crime when it was discovered, even during professional attendance. Detailed consideration was given to the demands of employers to know the result of the medical examination of employés; the reports of medical officers upon the conduct of subordinates (such documents should be brief and unadorned); and the clinical jurisprudence of cases of suspected poisoning. After citing many actual illustrations Dr. Bateman suggested the following points as pertinent to the discussion: Can a medical man obtain the same measure of protection as a lawyer and, if so, is it for the public benefit? Given, for example, a case of abortion, should the public authorities be informed, or would such information be "an act of monstrous cruelty"? If he held his peace would he be concealing a felony and hence liable as *particeps criminis?* Should not Parliamentary powers be obtained whereby death certificates would become confidential documents?—Dr. Westcott claimed that a man should have as much secrecy as he desired during life and after death as much as his representatives wished.—Sir Thomas Stevenson held that secrecy should be strictly kept; medical men, clergymen, and also lawyers should, however, "tell what they know" in the witness-box.—Dr. John Glaister discussed the position of the "hostile" medical witness; a medical man should never initiate criminal proceedings; in court he should demand a definition of his rights and duties as a witness; he should forewarn those whose bodies he examined of the possible adverse consequences and supply both sides in criminal trials with identical reports.—Dr. F. J. Wethered tested the rules with several examples.—Dr. W. P. Herringham noted that both the ethics and the law on the subject varied from time to time; in some cases (e.g., venereal infections) it might be necessary to break the rule of secrecy.—Dr. J. G. Garson saw the need of a public official who might be taken into the confidence of medical men when in doubt as to a point of clinical jurisprudence.—Mr. A. D. Cowburn, Dr. M. Greenwood, Miss E. L. C. Appel, M.B., Mr. D. Cotes-Preedy, and Dr. S. B. Atkinson having spoken, Mr. Walter Schröder stated that it was very rare for coroners to demand preliminary information from medical men, it was usually volunteered, otherwise the facts were revealed at an inquest.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at Birmingham on Feb. 15th, Dr. E. W. Wood White, the President, being in the chair.—Dr. J. G. Emanuel showed an infant, six weeks old, suffering from Paralysis of both Arms caused at birth. The mother was a primipara, aged 32 years. The child was full term, the pelvis was a little contracted, and the head presented. The accoucheur, failing to deliver with forceps, turned and delivered the trunk, the shoulders, and the arms without difficulty. The after-coming head, however, became impacted and great force was expended in its delivery by pulling on the trunk with the help of a towel wrapped round the shoulders. The day after birth complete paralysis of both upper limbs was noted. Two weeks later movements in the fingers of the left hand were observed. A month later the left arm showed typically the condition seen in Duchenne's birth paralysis as a result of rupture of the fifth and sixth cords of the brachial plexus, but the right extremity had undergone no improvement and evidently the brachial plexus on this side was severely damaged. Mr. L. P. Gamgee proposed to wait till the infant was two months old and then if the right arm still showed no improvement to attempt suture of the divided cords of the plexus.—Dr. J. Douglas Stanley showed a case of Subsiding Tuberculosis.—Dr. Thomas Wilson showed: (1) A specimen of Cancer of the Cervix Uteri with Pyometra; and (2) a specimen from a case of Tubal Gestation showing an oval enlargemt of the broad ligament due to hæmorrhage into an early ovum; the tube was continued over the surface of the hæmatoma, from which its lumen was free.—Mr. W. Billington read a paper on Some Points in the Treatment of Tuberculous Disease of the Hip.

Reviews and Notices of Books.

Mental Defectives; their History, Treatment, and Training. By MARTIN W. BARR, M.D., Chief Physician, Pennsylvania Training School for Feeble-minded Children, Elwyn, Pennsylvania. London: Rebman, Limited. 1904. Pp. 368. Price 17*s.* 6*d.* net.

THIS work, the preface informs us, "addresses itself primarily to anxious parents and earnest teachers rather than to the scientist." The author observes that he has not dwelt at any length on the stigmata of degeneration. This topic cannot be said to be dealt with at all, in point of fact and for this omission no explanation is given. The historical survey of the subject treated is instructive, a good account being given of the rise and development in various countries of the modern system of care and training of the feeble-minded. This is followed by as complete a list as possible of the principal institutions for mental defectives in all countries providing such. The need for larger provision in most of these (including our own), if not in all, is apparent. Passing to classification the usual etiological, pathological, and physiognomical (ethnological) groupings are mentioned, but the author eschews them, and we think wisely, for they contain much that is pretentious, illogical, and unscientific. Since the ideal, or pathological, classification is impossible in the present state of our knowledge it appears to us of no great moment what the basis of classification may be provided that the scheme followed be consistent. The London School Board has adopted a simple educational classification in the medical examination of children for its special schools and Dr. Barr follows the same principle though on a more elaborate scale. He describes idiots and idio-imbeciles—a low-level class requiring asylum care; imbeciles, including moral imbeciles, of different grades, trainable in various (some in high) degrees but requiring perpetual guardianship; and backward or mentally feeble, capable of being trained for a place in the world.

The question of etiology is dealt with on a basis of 2380 cases collected by Beach and Shuttleworth in England and 3050 cases compiled by the author, chiefly from the records of the Pennsylvania Training School, a total of 5430 cases. The immense preponderance of ante-natal causes of mental defect is manifest. This both English and American tables show but the reader is struck by the difference in importance assigned to individual ante-natal causes in the two. Thus, taking the tables in the order mentioned the following are the percentage occurrences of certain causes: family history of pulmonary tuberculosis, 28·31, against 7·57; of insanity, 16·47, against 7·08; and of intemperance, 16·38, against 4·46; abnormal condition of mother during gestation, 29·87, against 8·49. As regards causes acting at birth, whilst the English table assigns 14·24 per cent. of cases to protracted pressure the American has only 0·59 per cent. due

to difficult labour. Again, in post-natal causes there is great discrepancy as to epilepsy and eclampsia, the English table giving these in 35·5 per cent. and the American in 5·90. On inquiry into these great discrepancies it is clear to us that they must be due to different methods of dealing with the etiological factors. Whereas the English table states the number of times an individual cause was recorded, thus giving a preponderance of causes over cases, the American evidently assigns one cause and no more to each case. We fail to see how percentage results are comparable in these circumstances.

The figures of many authorities are quoted as upholding the usual teaching that consanguinity is not harmful except as intensifying bad heredity common to both parents. Syphilis as a factor is shown to be unimportant. In a chapter on Diagnosis due attention is given to the important subject of early recognition of indications of mental defect. A useful table of death-periods based on 625 deaths shows the largest mortality to occur between the tenth and the twenty-fifth years. 50 pages are devoted to training, mental and physical, and treatment. Speaking of trainable defectives Dr. Barr says that the consensus of opinion is that training at an earlier period than the seventh year is likely to prove disastrous. He considers that the limit of receptivity rarely extends beyond the sixteenth year. The importance of special school training for the backward, on the borderland of deterioration, is emphasised. It is stated that defective vision is noticeable in 90 per cent. of the high and middle grades of imbeciles. The futility of craniectomy, which is well known to be based upon a false pathological conception, is shown and perhaps the demonstration scarcely needed seven pages.

There is a short chapter on "asexualisation" of the mentally defective. It appears that a circular was sent from Elwyn to the heads of 61 institutions for mental defectives in America and abroad requesting an expression of opinion on this subject, including an opinion as to the kind of operations desirable and as to the propriety of legalising operations. Only 12 replies were received and of these only nine were explicit. All agreed that procreation was inadvisable and a majority considered that legislative aid should be sought. A memorial on this subject addressed to the Senate and the House of Representatives of Pennsylvania, and signed amongst others by the author, was followed by an Act which passed both Houses authorising operation for the prevention of procreation in non-improvable idiots and imbeciles in institution care and under safeguards. This Act was returned by the Governor "for some trifling technicality" and was lost and failed to become law. An account is given of the performance of operations for "asexualisation" in certain institutions for the feeble-minded in the United States.

Short chapters are devoted to cretinism, microcephalus, and hydrocephalus. Epilepsy, pure and simple, and Jacksonian epilepsy have a chapter, though whether these subjects are suitable for inclusion in a work of this sort may be doubted. The author considers that the epileptic "may be brought to recognise that with some assistance outside himself he may avert or defer an attack, and that therefore it is in a measure under his own control." Thus he is able "at theatrical entertainments to exact promises from epileptics that there shall be no spasms during the performance, and the evening always passes without such interruption, the attention being diverted, whilst the will is *unconsciously* [the italics are ours] exerted and centred on one aim with definite result." The greater part (65 pages) of the rest of the book is taken up with illustrative cases. There are 53 full-page plates of excellent illustrations of all kinds of mental defectives and a good list of works on the subject closes the treatise.

Dr. Barr writes from an experience of almost 20 years in his subject and this fact lends weight to his views. The wisdom of writing books for "anxious parents" may be doubted. But the "earnest teacher," who is also addressed in this work, will, we think, derive benefit from its study.

Lectures on Diseases of Children. By ROBERT HUTCHISON, M.D. Edin., F.R.C.P. Lond., Assistant Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond-street. London: Edward Arnold. 1904. Pp. 338. Price 6*s*.

THESE lectures have already been published in the *Clinical Journal*. Of the importance of the subject there can be no question but the author scarcely does justice to the ordinary qualifying examinations when he says in his opening lecture that they make no demand for a special knowledge of the diseases of children. A cursory glance at examination papers or a casual visit to any of the *viva-voce* examinations should have convinced him that those responsible are fully alive to the need for stimulating the study of this branch of medicine.

The volume is composed of nineteen lectures and in these the author has endeavoured to fill some of the gaps which are, in his opinion, left in ordinary teaching in the wards. The first lecture deals with the clinical examination of sick children and the details are full of practical hints. Every practitioner has learnt the importance of delaying percussion to the end of the examination but it is well that students should here be warned against percussing before auscultating. Concerning the artificial feeding of infants stress is laid upon the perils of rapid changes from one kind of food to another and there is a valuable analysis of the infant foods at present in use. Regarding the employment of starchy food the directions are somewhat vague and it is to be regretted that the age of the infant who thrived with "a considerable quantity of cornflour" (p. 42) is not given. The next two lectures are devoted to the digestive disorders of infancy, colic, vomiting, and diarrhœa, and in these due stress is laid upon washing out the stomach and the colon and upon the subcutaneous injections of fluids.

Marasmus, congenital syphilis, and tuberculosis in childhood form the prelude to an interesting lecture on Rickets, a subject which appears to possess a peculiar fascination for all who write or speak of diseases of children. Probably all who practise among children are struck with pity for the innocent sufferers from this preventable disease and are cheered by the extremely satisfactory results of treatment, while the cases are so numerous that it is impossible for anyone lecturing upon rickets to employ the vague terms so often necessitated when dealing with rare diseases and with secondhand information. The account here given is vivid and the subject is illustrated by several admirable reproductions of photographs. Infantile scurvy is next dealt with, Dr. Hutchison expressing an opinion that this term should replace that of "scurvy rickets." It is rather surprising, in a book characterised by dogmatism, to find the author repeatedly recommending "recourse to the therapeutic test." Concerning rheumatism in childhood much that is of interest is to be found in these pages, though many will demur at the somewhat loose pathology indicated in the comparison of rheumatic nodules in the skin and the vegetations to be found on the mitral valve. Considerations of space seem to have influenced the lecture on the Respiratory Diseases of Children, while the range of subjects touched upon under the heading of "Some Functional Nervous Diseases of Children" is also too wide for adequate treatment. The lectures on the Paralysis of Childhood and upon Meningitis are far more complete and the hints for diagnosis are likely to be very serviceable. The varieties of mental deficiency are carefully classified, the differences between cretins and Mongols, of

the microcephalic, hydrocephalic and paralytic groups, together with other varieties, being duly dealt with. One of the concluding lectures is devoted to the varieties of anæmia and here the author once more presents a rather overcrowded picture. It is obviously difficult to compress into one lecture all that is worth knowing about the following subjects: (1) Congenital abnormalities of the blood; (2) primary anæmias—e.g., pernicious anæmia and chlorosis; (3) secondary anæmias; (4) anæmia associated with enlarged spleen; (5) leukæmias; and (6) affections of the adenoid tissue. The diagnostic significance of some common symptoms of disease in children is approached in a lighter vein and with reference to illustrative cases. The subject readily lends itself to this treatment though it necessarily leads to a certain repetition of material contained in the earlier lectures. The same remark holds good for the concluding lecture on some medical aspects of adenoid vegetations in infancy and childhood.

From the foregoing remarks it will be gathered that within the scope of these lectures Dr. Hutchison has succeeded in imparting a great deal of information which should stimulate further inquiry and study. He has been hampered by the difficulty, inseparable from lectures, of dividing his material into sections which fill out the allotted time, and as the diction of the lecture is retained the style is perhaps more personal and dogmatic than is customary. Reference has already been made to the illustrations; these are of unusual excellence and the 52, with one or two exceptions, are from photographs of the author's cases.

Anatomie des Membres: Dissection; Anatomie Topographique. (*Anatomy of the Limbs: Dissection and Description.*) By Dr. CH. DUJARIER, late Prosector in the Dissecting Room of Clamart, Director of Surgical Clinique at the Faculty. With 58 original plates by REGNIER. Paris: G. Steinheil. 1905. Pp. 304. Price 15 francs.

THIS work is the fruit of Dr. Dujarier's term of prosectorship in the dissecting room at Clamart and is intended as a practical guide to students in their dissections. The illustrative plates have been prepared under the author's supervision from his own dissections; they are mostly from normal subjects but there has been no hesitation in including the more common abnormalities when present. In certain regions plates illustrative of the different stages of dissection have been introduced. Sufficient detail has been incorporated in the text to avoid reference to books of descriptive anatomy. Amongst regions of which a particularly full description is given may be mentioned the axilla, the bend of the elbow, the palm of the hand, the gluteal region, Scarpa's triangle, the sole of the foot, and the knee-joint. The volume reflects great credit upon both the author and the artist. The descriptions given in the text are lucid and exhaustive and many little points about the illustrations bear out the author's statement that they are drawn from actual preparations. We know of no text-book which gives better or more faithful representations of the anatomy of the limbs. A student who has conscientiously followed this book in dissection cannot fail to attain an excellent and correct knowledge of the structure of the limbs. At the same time we are inclined to think that the size of the volume will to some degree militate against its use in the dissecting room, for it is much larger than the ordinary manuals used by students, and in spite of this only contains the anatomy of the upper and lower extremities. Dr. Dujarier is a pupil of Farabœuf and in the preface he pays a touching tribute to his old master by whose permission he has reproduced the illustrations of the transverse sections of the limbs.

LIBRARY TABLE.

Landmarks and Surface Markings of the Human Body. By LOUIS BATHE RAWLING, M.B., B.C. Cantab., F.R.C.S. Eng., Senior Demonstrator of Anatomy, St. Bartholomew's Hospital; Assistant Surgeon to the German Hospital, Dalston; Hunterian Professor, Royal College of Surgeons of England. With 21 illustrations. London: H. K. Lewis. 1904. Pp. 76. Price 5*s.* net.—Mr. Rawling's small manual of surface anatomy cannot fail to recall to the reader's mind the famous "Landmarks" of Luther Holden, the subject-matter of each chapter being arranged in terse sections after the style of the older book. The idea has been to produce a handy volume of landmarks and surface markings such as may prove useful both to junior and to advanced students of medicine. The work is purely anatomical, no reference being made to operations or to pathology. Such being the scope of the book there is little room for originality in the text. There are five chapters and an appendix. The chapters are devoted respectively to the head and neck, the upper extremity, the thorax, the abdomen, and the lower extremity. The appendix, which gives the lengths of various tubes and passages and the average weight of most of the organs, is a useful novelty. The book is freely illustrated, partly by reproductions of actual photographs of the living body with the surface markings outlined in black and partly by outlines showing the surface relations of the thoracic and abdominal viscera. At the side of each paragraph is a reference to the corresponding illustration. On the whole the text appears to be trustworthy but in some places greater accuracy is to be desired; for instance, the surface markings of the lower limits of the cerebrum, of the lateral sinus, and of the upper border of the cerebellum are rather loosely given. In Fig. 18 the transverse colon appears to pass behind the duodenum. We have no doubt that the book will prove handy and useful to students.

Autobiography of Frederick James Gant, F.R.C.S., Consulting Surgeon to the Royal Free Hospital. London: Baillière, Tindall, and Cox. 1905. Pp. 200. Price 3*s.* 6*d.* net.—The public work and private matters which have served to mould the character of the writer of this autobiography are set forth in a modest and graceful way in this little volume which will cause pleasure to his old colleagues and friends. Some of the most private matters, which are too sacred for the pen of the reviewer to comment on, are treated in a way that shows how deeply they have touched the author and we could almost wish that Mr. Gant had let even the bare remembrance of them pass away into oblivion. Mr. Gant has seen and done much in his 80 years and the record of his work as author, as surgeon, and on public questions is here suitably set forth. Unquestionably many of the author's good intentions have borne fruit in good deeds. Mr. Gant has many pleasant memories to live with.

The Liverpool Medico-Chirurgical Journal. Including the Proceedings of the Liverpool Medical Institution. No. 47. January, 1905. Liverpool: Medical Institution; London: H. K. Lewis. Pp. 273. Price 3*s.* 6*d.*—This issue contains a large amount of excellent material. Among the papers are the following: 1. A Report of an Interesting Case of Operation, by Mr. R. C. Dun, for Congenital Hydronephrosis, in which the position of the abdominal tumour was unusual. 2. On Puerperal Septicæmia, with special reference to the value of antistreptococcic serum, based on an observation of 61 cases. In this paper Dr. Nathan Raw says that he has never been able to isolate pneumococci or gonococci and doubts if either will produce puerperal septicæmia. 3. On the Treatment of Severe Cases of Placenta Prævia by Bossi's Method prior to the introduction of Champetier de Ribes' bag, by Dr. H. Briggs. 4. On the Successful Treatment of Foreign Bodies which have been Swallowed by the Internal Administration of Cotton-wool, by Dr. W. Blair Bell. 5. On the Theory of Purin Formation, by Dr. W. Gordon Little. 6. On the Early Diagnosis of Consumption, by Dr. John Hay. 7. On the Education of Epileptics, by Dr. W. Alexander. There is also a report of

an interesting ceremony at the eighth ordinary meeting of the Liverpool Medical Institution, when the late Sir William Banks, on behalf of the institution, presented to the President, Dr. James Barr, a gold badge with a riband to be worn round the neck which had been subscribed for by the members. It is intended that the badge shall be handed down to successive presidents.

Studies from the Department of Pathology of the College of Physicians and Surgeons, Columbia University, N.Y. Vol. IX. For the collegiate year 1903–04. Reprints.—These reprints of the most important studies published by the workers in this department in various journals during the year 1903–04 are brought together in this form for convenience of reference. The cost of reprinting and issuing these studies is defrayed by the Alumni Association of the College of Physicians and Surgeons. The volume contains the following papers: 1. A Study of a Bacillus resembling the Bacillus of Shiga, from a case of fatal diarrhœa in a child; with remarks on the recognition of dysentery, typhoid, and allied bacilli, by Dr. Philip Hanson Hiss and Dr. F. F. Russell. The bacillus described is closely related also to the bacillus typhosus both in agglutinating reactions and in the usually observed cultural characters but can be separated from it by the absence of mobility and by its reactions in the maltose and dextrin media employed. 2. Experiments relating to the Question of Fixation of Strychnine in Animal Tissues, by S. J. Meltzer and G. Langmann. 3. A *Résumé* of some recent Researches relating to Cytolysis and Immunity, illustrated, by Dr. T. Mitchell Prudden. 4. A Case of Multiple Fibroma (Fibroneuroma) of the Nerves of the Lower Extremities, with Diffuse Enlargement of the Sciatics, complicating Sarcoma and Metastases in the Lungs, by Dr. John H. Larkin. 5, 6, and 7. Papers by Dr. F. C. Wood on the Prognostic Value of the Diazo-Reaction in Pulmonary Tuberculosis; on a Simple and Rapid Chromatin Stain for the Malarial Parasite; and on the Mixed Tumours of the Salivary Glands (illustrated). 8, 9, 10, and 11. Papers by Dr. Augustus Wadsworth on the Agglutination of the Pneumococcus with certain Normal and Immune Sera; on Experimental Studies on the Etiology of Acute Pneumonitis; on a Simple Method of obtaining Blood from the Rabbit; and on a Convenient Method for growing and storing Virulent Pneumococci. 12. Hæmolymph Nodes, by Dr Hughes Dayton. 13. A Bacteriological Study of Trachoma, with remarks on the Occurrence of the Influenza Group of Bacteria in Conjunctivitis, by Dr. Arnold Knapp. 14. The Bacterial Precipitins, by Dr. Charles Norris. 15. Hæmorrhages in the Eye present at Birth, illustrated, by Dr. E. B. Coburn. 16. An Adenoma of Sebaceous Glands of the Abdominal Wall, illustrated, by Dr. W. C. Clarke.

Manual of Hygiene for Students and Nurses. By JOHN GLAISTER, M.D. Glasg., D.P.H. Cantab., F.F.P.S. Glasg. Second edition. Edinburgh: E. and S. Livingstone. 1905. Pp. 403. Price 6*s.* net.—This new edition has been carefully revised and some additions have been made to it to make the work more complete. The author from his long experience as a teacher of hygiene and public health may fairly claim to be able to measure the needs of students and nurses in a public health manual and that his book met a want is shown by the rapidity with which it was taken up by those for whom it was written. This second edition will, we think, maintain the popularity of the manual.

JOURNALS AND MAGAZINES.

The Practitioner.—The February issue of this magazine opens with a communication from Sir William Broadbent based upon two cases of interlobar pneumonia, which are related in detail. Mr. Edmund Owen contributes a useful addition to the copious literature that has recently adorned the subject of loose cartilages in the knee-joint. Intestinal obstruction and the cervical sympathetic are dealt with respectively by Mr. T. Carwardine and Dr. Purves Stewart, and Mr. Harvey Hilliard discusses the use of ethyl chloride by the general practitioner. Dr. George F. Still contributes a review of recent work on children's diseases.

Belfast Health Journal.—Vol. III. of this journal commences with the number for December, 1904, and an editorial address "to our readers," which immediately follows the title-page, shows that its career has been one of great prosperity. The first of the original articles is a report of a "Health Lecture for the People" delivered in the Ulster Hall, Belfast, by Dr. Henry O'Neill on Nov. 15th. In subsequent articles the food-supply of the city, the organisation of the markets, and in particular the system of meat inspection are described at considerable length. In the January number the majority of the articles refer to the feeding and the general care of children. Professor G. Sims Woodhead's lecture on Alcohol and Public Health, delivered in the Wellington Hall, Belfast, is fully reported and there are useful accounts of municipal meetings at which public health matters were discussed. The general recommendations of the journal on health questions are excellent; it presents an attractive appearance and is embellished with an immense number of portraits of "Worthy Health Pioneers," including representatives of royalty and nobility, as well as many who hold prominent positions in political and municipal life.

New Inventions.

THE STELLITE AIR DEODORISER.

UNQUESTIONABLY an important degree of purification of the air is effected by bringing it into intimate contact with a spray of water. The cleansing effect of rain, or even mist or fog (when they have subsided), upon the air is well known. The air, again, in the vicinity of disturbed water, as at the sea or near water-falls, is proverbially sweet and fresh. In these circumstances it is probable that apart from mere mechanical action water present in a myriad of minute droplets acts as an oxygen carrier; it may be, in fact, that even peroxide of hydrogen is formed and that organic impurities in the air are destroyed by this agent. This is in part the principle upon which depends the purifying action of the Stellite Air Deodoriser, introduced by the Electric and Ordnance Accessories Co., Limited, Stellite Works, Birmingham. It consists of a metal case containing two revolving discs, between which is an air fan. By means of an electric motor the metal discs are made to revolve rapidly through a pool of water placed in a container at the bottom of the apparatus. The discs rapidly whisk up a stream of water droplets. At the same time the fan between the discs brings air into intimate contact with these droplets and a volume of air, scrubbed clean so to speak, issues from a funnel-shaped outlet. The effect upon the air of the room is, according to our experiments, decidedly satisfactory. The air is freshened and gives the impression of having been cooled. We have tried in particular the effect of the apparatus upon the air of a chemical laboratory dense with the fumes of chloride of ammonium. The air was rapidly cleaned and reduced to a perfectly clear state and ammonium salts were found in the wash water. The apparatus may be applied to the cleansing or even deodorising of the sick chamber or the hospital ward. Sponges moistened with a volatile antiseptic such as thymol, carbolic acid, or even formaldehyde may be placed in the air inlets. After a very short time on merely connecting the motor with the terminals used for an electric lamp the apartment is completely pervaded with the smell of the disinfectant that has been employed. Perfumes may be used with equal effect in a similar way. Primarily, however, the machine is an effectual air-washer and as such it may obviously have numerous hygienic applications. The purifying action of a spray of water upon air is of course to some extent mechanical but it is probable also that a physical and chemical effect is produced in the direction already indicated.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 25, 1905.

The Financial Relations between Hospitals and Medical Schools.

IT will be in the recollection of our readers that towards the close of last year KING EDWARD'S Hospital Fund for London appointed a committee to investigate and to report upon certain questions relating to the expenditure of the twelve London hospitals having medical schools. It is scarcely necessary to trace the history of the inquiry beyond indicating that it arose out of a certain agitation against medical schools where experimental research is conducted. The violent feelings of those opposed to research led to formal declarations of a direct desire to prejudice nearly all the public appeals for charitable support made by the hospitals in question, and upon these followed acrimonious discussions which gradually centred in a protest against the diversion of funds contributed for the support of a hospital to the maintenance of a medical school. In face of this charge a committee, consisting of Sir EDWARD FRY, the Bishop of STEPNEY, and Lord WELBY, was appointed and the terms of reference are printed in another column with the resulting report. It is certain that the report will be widely read and it appears to be equally certain that it will be found both surprising and disquieting to those who have at heart the interests of the hospitals and of the medical schools of London. It will be seen that the committee took rather a wide view of the scope of inquiry and sought information outside the hospitals with medical schools. In the course of the evidence many interesting facts were brought to light but these, although they bear on medical education, are outside the main object of the inquiry. The financial relations between the schools and the hospitals and the extent of their mutual dependence formed the chief subject of dispute and of inquiry.

The difficulty of disentangling the mass of evidence must have been considerable, since the terms of reference implied complete separate existence between the hospitals and the schools. Historically this is incorrect; in certain cases it is evident that there was a gradual process of growth, the hospital being created to meet the needs of the school, or the school being constructed as part of the hospital. The lack of uniformity in the history of the development of the relations between the individual hospitals and their medical schools renders impossible the formulation of general statements and continually calls into question the objects desired at the foundations of these institutions, so that the extent to which it is feasible to consider the school buildings as separable from the hospital buildings must remain doubtful. Turning, however, to the current expenditure we find greater possibility of precision and the conclusions are not creditable to our wealthy metropolis. It is lamentable that the claims of medical education should be so far ignored that it should ever be necessary for any contributions, direct or indirect, to be made to the schools out of the funds of the hospitals. There are only two institutions, King's College Hospital and University College Hospital, of which the committee is able to report that no money, given or subscribed, is contributed for the maintenence of medical education. Some doubt is expressed with regard to Guy's Hospital and the Royal Free Hospital but all the other medical schools appear to have received aid from their hospital funds. In fairness it might have been indicated that the two hospitals thus highly commended are the only two in which the medical schools form part of general teaching institutions, in every sense separate from the hospitals. In King's College and University College endless confusion would have been created by any overlapping of accounts and in both instances the hospitals were to a very large extent developed to afford facilities for clinical teaching of students trained in the parent institution. Supported primarily by the friends of these institutions it was in each case essential that the hospital funds should be distinct, since the welfare of the Colleges could not be imperilled by the uncertainty of the adequacy of charitable contributions.

The extent of benefit derived by the hospitals from their assoication with the medical schools is a matter upon which opinions may differ. It is perhaps inevitable that a committee without opportunities of personal observation should think that "the quiet of a hospital without students" must often be a comfort to patients. Much depends upon the class of students and the class of patients and the amount to which the students, as distinguished from the junior staff, are brought into connexion with the patients is less, we think, than the authors of the report imagine. It is difficult also to realise what is meant by the suggestion that "in cases of great obscurity and difficulty the presence of a large number of students may at times be useful." We believe that in cases of "great obscurity and difficulty" unofficial visits to the wards are frequently made in order that the members of the staff may form an opinion at their leisure without the disturbing need of explaining and demonstrating each step of investigation to a large class of students anxious to move on to something definite. If the large class could be composed of qualified men much help might be derived from their presence, but students demand instruction and rarely offer illuminating suggestions. Still, this portion of the report must not be criticised too rigorously, since the main facts are clearly recognised, and these are that opportunities of teaching in a hospital connected with a school will insure the gratuitous services of the most eminent men in the profession and that publicity inevitably tends to maintain the whole work at a high level. There is no need to doubt the conclusion that both the schools and the hospitals benefit from their association and that the mutual benefits may be fairly set off the one against the other.

The third point of reference, and the stern brevity of the report upon it, may lead to very grave modifications of existing conditions. The committee was asked whether there are any special considerations advanced in justification of contributions from the hospitals to the medical schools or any general considerations which would apply to all

hospitals having medical schools. The reply is an uncompromising negative. It is, however, easy to point to circumstances showing that in some directions the medical school makes to the hospital a large return for benefits received. For example, the school supplies to the hospital a number of unsalaried officers whose places must be filled under any distinct pecuniary scheme by paid men. Evidence of this kind was placed before the committee but does not appear to have weighed with them. Much was said about the difficulties and the expenses of the medical schools and many spoke of the possibility of meeting these expenses by a judicious concentration of studies. We have recently referred to the steps which have been taken by King's College and University College to facilitate this course and in their evidence Sir ARTHUR W. RÜCKER and Mr. H. T. BUTLIN dwelt on the advantages of centralisation. The committee reports that it feels the cogency of the arguments in favour of making a broad line of distinction between the preliminary and intermediate studies on the one hand and the final studies on the other, and it refers sympathetically to efforts in this direction to free some of the schools from burthens which they find it difficult to bear. But this does not alter its view that moneys intended for the hospitals should not go to the schools. It is possible that this report may, for a time, check the flow of charitable contributions to KING EDWARD'S Hospital Fund but its general effect should ultimately be for the good of all concerned. The public have been furnished with additional proof that the hospitals are really in want of assistance, while the urgent need of reorganisation of medical education in London could not have been placed before them more forcibly.

The Influence of Diet on the Growth and the Functions of Tissues.

THE great importance of the study of the principles of dietetics and the adjustment of dietaries to the needs of the organism in health and in disease was early recognised both by physiologists and clinicians. The scientific study of the problems of metabolism constitutes a branch of physiological inquiry of which the literature is now enormous. Much of our information we owe to the work of LIEBIG, PETTENKOFER, VOIT, VON RANKE, and MOLESCHOTT and to the very valuable and ingenious researches of LAWES and GILBERT which are all of them now classical. But most of these researches have been made on chemical or chemico-physical lines and comprise among other things the construction of balance-sheets of anabolic and katabolic changes in the body and the adjustment of diet scales to varying conditions of the organism as regards age, climate, and the amount of muscular work performed. A further advance was made when by calorimetric methods of investigation the energy values of food substances were investigated by RUBNER and other physiologists so that the physiological heat value of the various articles of diet being known a diet could be constructed adjusted to the needs of the body as regards heat and the energy of muscular movement. The question of diet in disease has also received attention from the earliest times of medicine and at the present day its importance is becoming more and more recognised; and although there is still abundant scope for research on scientific lines to confirm or to modify the results of the old or empiric methods of constructing dietaries adapted to various diseases yet undoubted progress has been made.

In striking contrast to the amount of attention which has been given to these aspects of the study of dietetics is the meagreness of our information of the effects of varying diets on the histological structure and the growth of tissues and organs. The effects of various diets on the deposition of glycogen in the liver and other tissues and of fat droplets in connective tissue cells and on the growth of bone furnish perhaps the chief examples. At the same time the subject is one of undoubted importance, as we may learn from the profound alterations in the growth of bone in cases of rickets and the very extensive pathological changes in cases of scurvy due to errors of diet. The beneficial effects of the correction of such errors in these diseases are too well known to require more than passing reference. Again, the effects of some special constituents of articles of diet in producing leucocytosis afford another example of the direct effect of diet on the activities of the tissues. In this connexion a paper, published in THE LANCET of Feb. 11th (p. 347), by Dr. D. CHALMERS WATSON of Edinburgh on the Rôle of an Excessive Meat Diet in the Induction of Gout contains an account of some observations of considerable interest. In the course of a research on the pathogenesis of gout Dr. CHALMERS WATSON fed various animals upon a diet of raw meat and water, approximating to the so-called Salisbury diet sometimes prescribed for the human subject. He found that in three healthy fowls fed on such a diet for periods varying from 13 to 16 months there were striking changes in the thyroid and parathyroid glands. The thyroid showed in each case great enlargement of its vesicles and an increase in the amount of colloid material and in some instances proliferation and shedding of the glandular epithelium—in other words, changes similar to those of parenchymatous goitre in the human subject. The enlargement was of such a degree that the thyroid weighed from eight to ten times the normal amount. The parathyroids were also increased in size from microscopic structures to masses larger than a pea, which presented the appearances characteristic of normal parathyroid tissue. Similar investigations were made with rats which were also fed on a diet of raw meat and water for periods varying from six weeks to four and a half months. In ten cases out of 12 definite changes in the thyroid were found, although differing in character and degree from those observed in the fowl. Proliferation of the epithelial cells of the vesicles and of the connective tissue occurred with a diminution in the amount of colloid which showed evidence of degeneration into a mucinoid material. The appearances are stated to resemble closely those seen in cases of exophthalmic goitre in man. The parathyroids were in most cases normal.

It is to be regretted that so few details are given in Dr. CHALMERS WATSON'S paper, which is, we presume, of the nature of a preliminary communication, since we learn from him that he has other evidence as yet unpublished of similar effects in a second generation of

animals as well as in the first and that he contemplates a systematic investigation of the whole question with the aid of a number of co-workers at Edinburgh. So far as his researches have gone, he is encouraged to expect valuable information on the influence of diet on the histology of the blood, bone marrow, bone, and other tissues and incidentally of its effects on catarrhal and other pathological processes. Without details of the number of animals employed in these experiments, of the number of control observations made on healthy animals of the same species under ordinary diet, and of the histological methods adopted in the fixing and preparation of his specimens it is difficult to appraise the value of Dr. CHALMERS WATSON'S observations on the thyroid and parathyroid bodies. Again, no details are given of the relative weights of the glands in the normal rat and the rat on the raw-meat diet and, while stating that the histological appearances in the latter case were strikingly like those of the thyroid in exophthalmic goitre, he does not mention whether the proliferated epithelium approximated in type to that of the parathyroid, as is stated to be the case in that disease. With Dr. CHALMERS WATSON'S views as to the infective nature of gout or the rôle played by an excessive meat diet in its pathogenesis we are not now concerned. He himself admits that it may be some time before conclusive evidence of an infective element is forthcoming. In this we may agree with him and regard his premiss as not proven. The feature of his work, which seems to us to be of great importance, is the evidence that different diets may be associated with demonstrable histological changes in various organs and alterations of their functional activity. The extended research which he proposes on these lines, if properly controlled by observations on normal animals and carefully carried out by various histological methods, should afford very valuable additions to our knowledge of diet in health and disease and we shall await with interest the results obtained by Dr. CHALMERS WATSON and his co-workers.

The History of the Discovery of the Acarus of Scabies.

IT cannot but be instructive to review now and again the course of discovery in medicine, for by such an examination of the past we may be enabled to recognise fallacies current at the present time and may thus to some extent avoid falling into errors like those which have proved disastrous to our predecessors. Not only do we find that in former times many erroneous opinions have been held, for this is only what we expect in a science at first purely empirical, but we also find that in some cases the true theory, the correct explanation of facts, though known, has for one reason or another been discarded in favour of some utterly false hypothesis. It would not be difficult to find many examples of this but one lies ready to our hand. In the issue of THE LANCET of Jan. 7th, p. 49, under the heading of "Looking Back" we reprinted a note on the etiology of scabies which had appeared in THE LANCET of Jan. 6th, 1827. At that time the evidence against the parasitic origin of scabies appeared to be very strong—in fact, strong enough to overthrow completely the idea that the acarus scabiei was the cause of the disease, and the very existence of this animalcule was firmly denied. The history of this controversy from the beginning is of great interest as showing how the truth may appear, may become more or less established, and then may disappear again to await re-discovery.

The ancients confused many different diseases under the terms scabies and psora and therefore but little reliance can be placed on their descriptions. ARISTOTLE certainly speaks of an "ἀκαρίς" residing in the skins of animals but it is by no means certain that he refers to the sarcoptes hominis. It is very doubtful whether the Romans were acquainted with the presence of an insect in scabies, for most of the references which have been advanced as referring to this animal probably relate to pediculi. ABU MERWAN IBN-ZOHR, the Arabian physician who lived in the twelfth century and is better known as AVENZOAR, was the first to give such an account of the acarus as to enable us to be sure that he knew of its existence. He says, according to the Latin translation, "sunt pedicelli subter manuum, crurum et pedum cutem serpentes et pustulas ibidem excitantes aqua plenas; tam parva animalcula quam vix visu discerni valeant." It can hardly be that this description refers to pediculi corporis as HEBRA has suggested; it seems clear that in this we have a description of acari living in the skin. BENEDICTUS in 1535 gives a very similar account. SCALIGER, in a letter to CARDANUS in 1557, says that the acarus lives in burrows which it makes in the skin and that it is globular in form and extremely minute. MOUFET, an Englishman, however, gives a very full account in his work "Theatrum Insectorum," which was published in 1634 after his death. He points out that the "animalculum est omnium minutissimum," and that the acarus "extractus acu et super ungue positus, movet se, si solis etiam calore adjuvetur." HAUPTMANN in 1654 was the first to print a drawing of the acarus, though it was not very accurate. Many other writers described it in the seventeenth and eighteenth centuries and among them may specially be mentioned BONOMO, BONANNI, and BAKER, but the most valuable work on this subject in the eighteenth century was a book on the "Aetiologie der Kraetze" by WICHMANN, published in 1786. WICHMANN was the first to point out clearly that the acari live on the side of the vesicles and not in the vesicles or pustules, as was maintained by most of the writers preceding him and many of those who wrote after him. ADAMS in 1805 figured the acarus and described the method of extracting it from its burrow but he was inclined to think that the disease in which the acarus could be found was not identical with true scabies. Thus the matter rested until in 1812 the Academy of Sciences of Paris doubting the exactitude of the description of the acarus and its location offered a prize for a full demonstration of the situation and mode of discovery of the animal. GALÈS, who was an apothecary at the Saint Louis Hospital, gained the prize by a public demonstration of the extraction of an acarus from a pustule, and for a time this demonstration was held to have proved conclusively that the acarus was the cause of the disease, but doubts soon began to arise for many dermatologists examined the vesicles and pustules in cases of scabies and were unable to discover the presence of any acari. ALIBERT, BIETT,

MOURONVAL, and RAYER of Paris sought in vain for the animalcule and even the employment of microscopes did not enable them to find any trace of it and so disbelief in the existence of the acarus became almost universal and the passage to which we have referred as appearing in THE LANCET in 1827 was written at a time when this scepticism prevailed.

Yet a very little attention devoted to earlier accounts of the site of the acarus would have sufficed to dispel the erroneous notions then prevalent. MOUFET in 1634 had pointed out that the acarus was not *in* the vesicles or pustules but at the side. CASAL of Madrid in 1762 had well described the burrows made by the acarus and ADAMS in 1807 had clearly said that in looking for the acarus we must not examine the vesicle but the extremity of the little line or ridge running off from it. However, RENUCCI of Corsica was a medical student in Paris and he had seen the people of his native country extract the organism; he was therefore able to demonstrate conclusively the presence of the acarus and to instruct others how to remove it from its burrow. RASPAIL investigated the subject and he showed that the illustrations of the acari "discovered" by GALÈS exactly resembled the "mites" of flour and were very different from the true acarus of scabies; it has, therefore, been concluded that GALÈS acted fraudulently in order to obtain the prize offered by the Academy of Sciences. It is conjectured that he concealed the flour mite beneath his nail and when he opened the pustule in a patient affected with scabies he brought out the mite from under his nail and presented it to the admiring spectators as the *vera causa* of scabies. There seems to be little doubt that GALÈS had deceived those who witnessed the demonstration. It is curious to note that many of the older observers speak of finding the acarus in the vesicle just as GALÈS did, though now we know that the acari never occur in the vesicles. It is a little difficult to account satisfactorily for these older accounts of the existence of the acari in the vesicles but it is probably only an error of description. When RENUCCI had shown how very easy it was to find the acarus when it was searched for in the right place the rôle of the acarus as the *causa causans* of scabies was fully admitted though there have been a few who have looked upon the animalcule as a result of the morbid process of scabies and not as its cause. ALBIN GRAS published in 1834 an account of a series of experiments which he had made with praiseworthy devotion to the cause of science. He placed acari on his forearm and covered them with a watch-glass and they formed burrows. He placed others on his finger and covered them with a finger-stall and in several other ways he proved satisfactorily that the acari could give rise to the disease. We may take it that it has been proved definitely that the acarus is the essential cause of scabies and that the doubts raised by the inability to discover the acarus were ill-founded and were dependent chiefly on fraud. Though there is much excuse for the scepticism shown, yet the fact remains that the true theory of the etiology of scabies which had been held for several hundreds of years at least was given up in favour of an erroneous doctrine. This is by no means a solitary example of scepticism in relation to scientific discoveries. Many dermatologists may remember that Sir ERASMUS WILSON would not admit the parasitic nature of ringworm and looked upon the spores in the hair as the result of a granular degeneration.

Annotations.

"Ne quid nimis."

WHAT IS PORT?

THE fact that such questions are so constantly brought into public prominence as what is port, what is flannel, what is butter—instances could be multiplied *ad nauseam*—is an eloquent indication of the extent to which substitution, adulteration, or misbranding is practised. There are those who seek to convince us that old definitions are passing away. That view is at any rate convenient to those who hold a brief for the substituted article or who are interested in pushing its sale. It will not appeal, we should hope, to an enlightened public. Even the "man in the street" is too well informed to believe that it matters little what spirit he chooses to drink because all are alcohol, which is equivalent to saying that the distinctive terms whisky, rum, and brandy are obsolete and mean nothing. We commend the admirable judgment delivered on Feb. 15th by Mr. Mahony in the Dublin police courts in a case in which certain wine and spirit merchants were charged with selling a bottle of wine which was falsely labelled as port and contained Tarragona, a cheap wine not produced in, or shipped from, Portugal. The defendants contended that they had simply followed the trade custom of selling such wine as port, without any qualifying words. "Geographical words," said Mr. Mahony, "when used to designate trade products gave rise in course of time to some difficulty, as, for instance, Brussels carpets" (and he might have added Bath buns). "But," he went on to say, "there was a difference between manufactured articles like those mentioned and a natural product. The latter may, and probably does, owe its qualities to the characteristics of the real soil and the climate where it is produced. It is not likely that these peculiar local circumstances would be reproduced elsewhere and consequently the production of that particular product must be limited to its original district." He very appropriately quoted Tennyson in the following verse:—

> "Oh, plump head waiter at the Cock,
> To which I most resort;
> How goes the time? 'Tis five o'clock,
> Go fetch a pint of port.
> But let it not be such as that
> You set before chance comers,
> But sack, whose father, grape, grew fat
> On Lusitanian summers."

We may add that similarly the "father" of brandy should be the grape; of whisky, barley malt; of rum, sugar; and so forth. Mr. Mahony came to the conclusion that the term port applied to wine and used without any qualifying or explanatory words was only applicable to wines produced in Portugal and in the Douro district and when applied to any other wine was a false trade description within the meaning of the Merchandise Marks Act and he therefore convicted the defendants on the summons.

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

AT the meeting of this society on Tuesday next, when Sir Frederick Treves will open the discussion on the Subsequent Course and Later History of Cases of Appendicitis after Operation, records and statistics of cases, printed for the occasion, will be provided for

the use of those present at the meeting. These records and tables have been collected and arranged by the surgical registrars and other gentlemen connected with some of the chief hospitals of London. Between 2000 and 3000 cases, by much work, have been thus tabulated and the conclusions to be drawn from them will add greatly to the interest and the value of the discussion. It is expected that after Sir Frederick Treves and Sir William Broadbent, the speakers will be Mr. Charters J. Symonds, Sir Lauder Brunton, Mr. A. Pearce Gould, and Sir William Bennett, and that the debate will then be adjourned to Tuesday, March 7th. This adjourned meeting will probably be held at 5 o'clock (tea and coffee at 4.45) instead of the usual hour of the society's meetings. The annual general meeting of the society, at which the President will deliver an address, will be held on Wednesday, March 1st, at 5 P.M. It is hoped that the meeting may be well attended in view of important matters to be considered.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

THE fourth lecture[1] delivered by Professor W. F. R. Weldon, F.R.S., at University College, London, on Dec. 13th, 1904, dealt with the environment and its special action on developing organisms. The relation of organism to environment is a matter of common knowledge but the investigation of the special action of elements of the environment on development is a recent achievement in biology. Thus, the sea-water in which the sea-urchin lives and develops has an average composition of sodium chloride, 25·9 grammes; potassium chloride, 3·6 grammes; magnesium sulphate, 1·6 grammes; calcium sulphate, 1·2 grammes; potassium sulphate, 0·8 gramme; calcium carbonate, 0·1 gramme; and magnesium bromide, 0·1 gramme per litre. Herbst studied the development of the egg of echinus in sea-water in which one or another of these saline constituents was changed and found that, excluding the bromide, all the other salts influenced development, abnormalities being produced if these were not in the right proportions. Thus, excess of potassium chloride causes feebleness and high mortality of the embryos, while absence of calcium or the presence of small quantities of strontium or lithium produces malformed and abnormal larvæ. Fertilisation is impossible except in a slightly alkaline sea-water; in neutral or faintly acid water it does not occur. In sea-water without sulphates eggs of echinus segment normally to blastulæ and mesenchyme is formed but the latter forms a disordered mass of cells and spicules. Moreover the gut does not differentiate into three parts as it normally would and the larva remains a symmetrical gastrula with a single equatorial ciliated band and centrally situated mouth. The normal form is an asymmetrical gastrula which develops a ventral mouth, bilateral symmetry, and a complex set of three ciliated bands. Other monstrous forms of gastrulæ also occur in the absence of sulphates. If the water is warmer than the normal environment should be the endoderm cells which are formed do not invaginate to form the gut but evaginate (are everted) forming a small tubular projection which is soon thrown off from the globular blastula. Mesenchyme and spicules are formed but owing to loss of the gut the blastula is unable to feed itself and dies. Changes in temperature produce abnormalities in development as marked as changes in the chemical composition of the water. The presence of lithium salts in sea-water affects the egg as a "toxin." Thus, 1 part of lithium bromide in 1000 parts of water causes in echinus the production of an enormous everted globular gut (hyperplasia of endoderm), while the smaller ectodermal portion develops a transverse ciliated band. The character of echinoderm larvæ, says Professor Weldon, depends not only on the intrinsic quality and structure of the egg and the relations between the early blastomeres but also upon the relations between cells at various later stages of embryonic development, and all agencies in the environment, physical and chemical, such as disturb the processes of normal development show their special action at particular "critical" periods of the process. Normally and fully developed blastulæ transferred to lithium water change but little, whereas at an earlier stage the toxic and deformative effect of the lithium is shown at its maximum. Passing on to the variations of colour in insects, Professor Weldon said that they offered the most striking example of susceptibility to variation at special periods: thus, by placing caterpillars in boxes of black, golden, silvery, or other colours there were produced dark pupæ and golden-coloured pupæ (young butterflies) in course of time. Heat accelerated the formation of the pupa but did not disturb much the colouration. The characteristic change produced by heat was that the relative growth of the various parts was so disturbed that the "hot-house" pupa had the look and characters of a different species. Larva and pupa differed in their respective reactions in these respects. Every phase of development of an embryo was influenced by thermal, physical, chemical or toxic, and nutritive agencies, and no distinction could thus be made between blastogenic or somatogenic characters. No character could be shown in an animal to be completely germinal in origin and independent of environment, and the environment (and its elements) affected even closely allied animals very differently. Striking changes of colour could be produced in siren, a tailed amphibian, by exposure to coloured lights, and the absence of the stimulus of light for long periods of time produced loss of pigment as well as atrophy of the visual organs, as in the blind fauna of the Kentucky caves. The eggs of proteus (a cave amphibian of Austria) grown and hatched in light give rise to coloured larvæ unlike the normal colourless ones. The lower side of the sole which is white develops colour if the fish is reared in an aquarium the floor of which is illuminated with coloured lights from below.

[1] Abstracts of the first, second, and third lectures were published in THE LANCET of Jan. 7th (p. 42) and 21st (p. 151) and Feb. 4th (p. 307), 1905.

THE AMETHYST-TINTED WINDOW.

IN not a few shops in London, and particularly those which have a southern or sunny aspect, there may be noticed panes of glass in the window of a violet tint. They are perhaps more frequently seen in the shop windows of silversmiths, in which the panes of glass are relatively small. We were under the impression that these panes of glass were intentionally tinted in order to lend an antique lustre to the silver goods exhibited in the window, but it appears that the colour is really due to the effect of prolonged sunlight upon the manganese in the glass. Radium will produce the same colouration in glass containing manganese and presumably the colourless manganous salt present is oxidised under the influence of sun or radium radiations. Manganese is added to glass in order to neutralise the green effect produced by the presence of iron. Amethyst-tinted windows are observed more often in silversmiths' shops, probably because many of these shops are very old and the glass panes have consequently been exposed for a long time to the action of the sun's rays. Old glass windows are generally broken up into small squares but not all the squares assume the amethyst tint, as some are probably free from manganese. According to Sir William Crookes the colouration is not superficial. It occurs intensely in pieces of glass exposed to sunlight at high altitudes, ranging from deep violet (almost black in some places) to pale amethyst. Sir William Crookes adds that sunlight and radium both produce similar effects. Their modes of action,

however, are known to be in the main very different. Still, it has been clearly shown that what radium is capable of doing in the way of inducing chemical change sunlight will also effect. It may be noted also that the same amethyst colouration appears in some x ray tubes after constant use.

THE LANCET SPECIAL ANALYTICAL COMMISSION ON BRANDY.

COPIES of the report of THE LANCET Special Analytical Commission on Brandy, which was published in THE LANCET of Nov. 29th, 1902, have been in such request as to have exhausted not only our stock of that number of the journal but of the reprints that were issued. This demand has been occasioned by the successful proceedings which have been established throughout the country against vendors for selling as brandy a spirituous liquid which proved to be not of the nature, substance, and quality of brandy, accepting that word to mean a spirit obtained by the simple distillation of grape wine. The question is still occupying considerable public attention and it has been stated that the possibility of strengthening the provisions of the Sale of Food and Drugs Act, so that the sale of spirits may be brought under more efficient and satisfactory means of control, is being officially contemplated. In these circumstances and in view also of the fact that inquiries for more copies of the report continue to reach us we have issued a further number of reprints in pamphlet form.[1] The report deals with the production of brandy at Cognac, the position of the industry in the Charentes, and the supply of genuine brandy to this country.

STRIÆ PATELLARES.

IN the *British Journal of Dermatology* for February Dr. J. L. Bunch has recorded two cases of the rare condition termed "striæ patellares." In the first case the patient was a boy, aged 13½ years. He had typhoid fever five months previously. Convalescence was slow and he was still weak and poorly nourished. Above both knees were several irregular pinkish transverse striæ which appeared during the illness. They varied in width from a few lines to about one-eighth of an inch and tapered off somewhat at the ends. During the illness he had suffered considerably from pain in the region of the knees. Since the onset he had grown one and a quarter inches. In the second case the patient was a girl, aged 12 years, who had suffered four months previously from pleurisy and endocarditis. During the illness she was kept recumbent and striæ patellares appeared but their advent was not accompanied by pain. They were pinkish-blue and similar to those in the preceding case. A limited number of cases of striæ patellares has been recorded, principally in children after typhoid fever. Sir Dyce Duckworth observed unilateral striæ on the thigh after typhoid fever in a patient, aged 15 years. Several explanations of these striæ have been given. It has been urged that unusual growth takes place in the long bones, especially in the femora, owing either to absence of pressure on the epiphyses during the prolonged rest in bed or to juxta-epiphyseal osteitis. Measurements of the limb before and after the attack may show an increase of from one centimetre to one and a half centimetres. It has also been alleged that the striæ are due to rupture of the subcutaneous tissue as a result of tension on the skin in the position in which the child lies with the legs drawn up. They are not peculiar to typhoid fever, though they have been observed after this disease most frequently. They have been described by Tussat and Brissaud in pulmonary tuberculosis and by Chevallereau in a patient, aged 20 years, who was laid up for eight months with colitis. Striæ in other positions are well recognised. The best known are the lineæ albicantes of pregnancy. Striæ may be produced by distension from other causes, such as ascites or obesity. Kirstein and Gilbert have described them on the chest in pulmonary diseases. In the museum of the Hôpital Saint-Louis are several models of linear striæ; in one they are the result of typhoid fever but occur on the flank. Striæ are usually pink at first and after a time become white. On microscopic examination of a stria which was losing its pigment Dr. Bunch found changes chiefly in the elastic fibres and to a less extent in the white fibres. The latter showed general thinning and a few had ruptured. The interlacing of the network of elastic fibres was much less marked than normal owing to a new parallel arrangement of the fibres which had been produced at the expense of the transverse elastic fibres. The latter were ruptured and retracted to the edge of the lesion where their broken ends were seen. These changes were best marked in the pars reticularis of the corium.

[1] Copies of the reprint can be obtained from THE LANCET Offices, price 1s. each.

THE AFTER-CARE ASSOCIATION.

ALTHOUGH the methods of treating the insane have made great strides of late there is still no provision, except that of the After-care Association, for looking after poor persons discharged as recovered from asylums for the insane. As a consequence many who might otherwise have a chance of becoming useful members of society relapse into their former condition. This fact, we think, is somewhat of a reproach to a civilised country. The association receives the small sum of £700 a year only in contributions, yet there are 7000 persons discharged annually from the asylums in this country. Many of these people are friendless and without assistance find almost insurmountable difficulties in getting employment. The association endeavours to facilitate the readmission of these poor people into social life by obtaining for them an interval of change of scene and air, by boarding them out in the country under proper care and supervision, by giving them grants of money, and in other ways. By these methods an amount of good is done which cannot be easily estimated. Certainly many people are prevented from drifting into the asylum again and possibly the procreation of mental weaklings is often hindered by the judicious care which the association exercises over its protégés. We therefore cordially endorse the council's appeal for subscriptions. The secretary is Mr. H. T. Roxby, Church House, Dean's-yard, Westminster, London, S.W.

UNGUENTUM ACIDI CARBOLICI.

THE periodical revisions of the Pharmacopœia are necessary not only for the introduction of new remedies but also for the improvement and better description of old and well-tried drugs and galenical preparations. Ointment of carbolic acid has always been a difficult subject for the prescriber and the dispenser owing to the carbolic acid crystalising out. The official formula contains 1 of phenol in 25 and has for a basis a mixture of hard and soft paraffins with some glycerine. The tendency to separate is overcome by adopting a slight modification of the official formula, as suggested by Morley Taylor: phenol, 1 part; hard paraffin, 6 parts; and soft paraffin, 18 parts. Undoubtedly this formula is superior to the official one and is to be recommended especially for obstetric use and in all cases where absorption by the skin is not desired. But the desirability may be suggested of inserting in the Pharmacopœia alternative formulæ replacing the paraffin basis in this and other ointments by vegetable or animal fats or oils—e.g., olive oil, lard, and wool-fat—in cases where absorption is required. The bases used for making ointments have been classed by Hallberg into (1) non-absorbed, protective,

epidermatic bases—e.g., hard and soft paraffin; (2) emollient, absorbent, endermatic bases, as lard and olive oil; and (3) systematic, absorptive, diadermatic bases, as represented by wool-fat. Of the official ointments those of carbolic, boric, and salicylic acids are probably designed to afford in most cases an antiseptic protective coating. But in other cases—for example, the ointments of lead subacetate and ammoniated mercury—it is difficult to account for the choice of a paraffin basis except on pharmaceutical grounds. In devising formulæ the first consideration should be to determine the therapeutic requirements and afterwards to find out the best means of compounding the ingredients. Of the official ointments the following are also prepared with a paraffin basis though it might be expected that a more absorbent basis would be selected—ointments of yellow and red mercuric oxide, lead acetate, lead carbonate, lead iodide, and zinc oleate.

BOMBS.

WHEN left alone to its natural functions nitrogen pursues a perfectly peaceful course but when man succeeds in capturing it and combining it with other elements it becomes a dire potentiality for evil, as is obvious in the recent events of the war in the Far East and in the crime committed last week in the streets of Moscow. The love of freedom, so to speak, characteristic of nitrogen is terribly exemplified in the explosion of the bomb in which it is imprisoned and bound to other elements. On the slightest provocation—a spark, a shock, a fuse—the nitrogen suddenly expands from seemingly nothing, as regards the space which it occupies, into infinity. This is, in reality, what happens when dynamite, lyddite, or other unstable nitro-compounds explode when hurled in shells in warfare and in bombs in desperate attacks on human lives. Nitrogen, against its natural disposition, is locked up in an uncongenial space in these compounds, from which it is set free by very simple means in an enormously expanded gaseous state with deadly effect, returning, in fact, to its normal peaceful mission once more. It is the analogue of the sword and the ploughshare; in the nitro-explosive nitrogen is the modern engine of warfare and crime; in the free state in the atmosphere it ministers directly to the quiet and peaceful needs of plant and human life.

THE INCIPIENT STAGE OF INSANITY.

AMONG the many problems connected with psychology one of the most important is the early recognition of symptoms of mental aberration. It must also be kept in mind that certificates given in cases of this description have sometimes proved fruitful sources of anxiety to the medical men concerned. In a recently published pamphlet[1] Mr. Charles Williams of Liverpool emphasises the great practical value of the early recognition of insanity from the point of view of treatment and prevention of family trouble, suicide, and homicide. He follows up his exhortation by stating and explaining the signs and symptoms by which incipient insanity may be detected. We imagine that all medical men are well aware of the importance of the early detection of disease whether so-called mental or physical, and in these days we should suppose that most are well acquainted with the early symptoms of insanity as described in the various text-books. But a short essay of this kind may well serve a useful purpose by supplying the intelligent public in a succinct and easily assimilable form with information which they would otherwise be not very likely to acquire. From his concluding remarks Mr. Williams evidently thinks that he may be charged with undue optimism and therefore the less compunction need be felt in ascribing this fault to him. He has a strong conviction that the early recognition of the approach of insanity would prevent large numbers of people annually from becoming insane. Mr. Williams is presumably prepared to give reasons for the belief which is in him. If medical men in general practice and the alienists whom they call in will come forward with evidence of the prevention of threatening insanity their experiences will be received with much interest by those working in the department of mental disorders. The claim to prevention must in the nature of things be eminently difficult to maintain. Mr. Williams also dwells upon the "supreme importance of eradicating, or at least attempting to eradicate, a delusion at its first inception." He says that a delusion at this stage may often be successfully removed but he does not give any instance of the operation, nor does he describe the *modus operandi*. Is it by appeal to the mind or to the body, by argument, entreaty, cajolery, or by antiphlogistics, hypnotics, and purgatives? All this is very sanguine but is it scientific? We think that even an intelligent general public may regard with scepticism these *ex cathedrâ* utterances. Mr. Williams says that from hallucinations alone a person should never be pronounced insane and asserts, apparently in all seriousness, that this view is "opposed to that generally accepted by the medical profession, the legal profession, and the public generally." Being, however, satisfied that he is correct on this point he proceeds, in this instance at any rate, to give reasons for his view. Various explanations have been put forward to account for the increase of insanity of late years, but if it were generally believed that hallucinations constituted insanity, and this belief were acted upon, an explanation for the increase would be forthcoming which we do not remember to have met with and, fortunately, have no expectation of meeting with.

[1] A Short Essay on Insanity. By Charles Williams, L.R.C.P., L.R.C.S. Edin., L.S.A. London: Henry J. Glaisher. 1905. Pp. 22. Price 1s.

THE DISSEMINATION OF PLAGUE.

AT a recent meeting of the Bombay Natural History Society an interesting paper was read by Captain W. G. Liston, I.M.S., on Plague, Rats, and Fleas. The fact that rats may play an important rôle in the dissemination of plague is now a generally accepted fact. The manner in which the disease is so spread is still under discussion and Captain Liston's views on the subject are certainly worthy of consideration. He points out that there are two species of domestic rats—the *mus decumanus*, the common rat found in Europe, a burrowing rodent living in drains and cellars, and the *mus rattus*, the common rat of Bombay and the East generally, living in the roofs of houses and even in trees. Captain Liston maintains that plague may rage as an epizootic among rats of the first-named species without human beings running much risk of being infected but that an epidemic of the disease among rats of the species *mus rattus* is very liable to be communicated to man. He further makes the interesting statement that the disappearance of plague from Europe was coincident with the invasion of that continent by the brown rat and the displacement of the black rat. A habit of rats which has an important bearing on the spread of plague is that of migrating as a community when scared by an unusual mortality among them. In these circumstances the disease would be communicated to other colonies of rats in the same town and so a fresh focus of infection might be established. Captain Liston then proceeds to consider how the disease is communicated from rats to man and points out the manner in which fleas may act as transmitters. The rat flea is seldom found on man but when the rats migrate in the presence of an unusual mortality among

them some of the fleas remain behind and from sheer hunger attack man and other animals. He records proof of this fact in the case of a certain epidemic among guinea-pigs in an outbreak of plague in a chawl in India. While normally rat fleas are never found on guinea-pigs in the above instance 18 were captured on one sick guinea-pig. Man seldom harbours the rat flea, yet Captain Liston states that in this epidemic of 30 fleas caught on man no less than 14 were rat fleas. He concludes by saying that he believes it is impossible to place a distance between rats and man except by years of sanitary improvement and education. The only method that holds out any hope of success now and until sanitary reforms are carried out is to acquire immunity to plague by inoculation.

THE AUTO-INOCULABILITY OF SYPHILITIC CHANCRES.

IT is generally held that the pure syphilitic chancre is not auto-inoculable. But from the evidence brought forward by M. Queyrat at the meeting of the Société Médicale des Hôpitaux of Paris on Dec. 23rd, 1904, it would seem that this view must be modified. As long ago as 1884 Pontopiddan reported at the International Congress of Medicine held at Copenhagen in that year a case of auto-inoculation of a recent syphilitic chancre in three places. No change was noticed until the twelfth day, when red spots of the size of the head of a pin appeared. On the nineteenth day they had become red papules of the size of a grain of millet. On the twenty-sixth day these were of the size of a pea and transformed into pustules covered with crusts and the secondary eruption appeared. On the thirty-second day they reached their acme. On the thirty-sixth day the crusts fell off and the papules were flattening down. They then gradually disappeared. Mercurial treatment was begun on the twenty-sixth day. Inoculation was attempted again on the twenty-eighth day without success. The objection was made to this experiment that the lesions produced were secondary ones. Metchnikoff performed experiments which support the view that auto-inoculation is possible. He inoculated an orang-outang with syphilis on Oct. 26th and again on Nov. 5th, 1904. On Nov. 21st a primary lesion appeared on the site of the first inoculation, after an incubation period of 26 days. After an incubation period of 20 days a primary lesion followed the second inoculation. M. Queyrat has previously recorded a case in which a man developed 11 chancres in succession of which the later ones were abortive.[1] They were evidently inoculated during intercourse on successive days with the same woman. This case led M. Queyrat to the conclusion that immunity to syphilis is developed only gradually after the appearance of the first chancre and that therefore auto-inoculation is possible. At the meeting he brought forward still more cogent evidence of this view. With their consent he inoculated from their own chancres three men who had contracted syphilis. In all 13 inoculations were performed from chancres varying in duration from four to 28 days. In each case he obtained one successful result from chancres of five, five, and six days' duration respectively. The following is an example. A man, aged 29 years, had gone to hospital on Nov. 5th with a typical syphilitic chancre on the prepuce of five days' duration. On the 6th (the sixth day) he was inoculated in two places in the right deltoid region with a vaccination style charged with the juice of the chancre. In order to meet the objection that the result might be due merely to the injury he was similarly pricked with a sterile vaccination style in the left deltoid region in two places to a greater depth than that of the inoculations. On the 18th he left hospital without having shown any signs of reaction at the inoculated spots. He returned on Dec. 10th with two dark red papules of the size of small lentils on the sites of inoculation and two enlarged glands in the right axilla. On the left side he showed nothing. He had been instructed to watch the inoculated spots and said that the papules appeared 21 days after the inoculation. On the trunk was a macular secondary eruption which began eight days after the appearance of the papules of inoculation. On Dec. 13th the papules were surrounded with a whitish scale. After the 15th they retrogressed and the infiltration diminished. On the 23rd there were only dark red lenticular macules; at this time the chancre on the prepuce was completely healed. The patient was treated by injections of "grey oil." In the other cases the result was similar but the incubation period was only 12 days and enlarged glands were not observed. The results cannot be explained by saying that they were due to auto-inoculation of soft chancres, for the primary lesions had all the characters of pure syphilitic chancres and the diagnosis was confirmed by the secondary eruption. Moreover, the auto-inoculation of soft chancres would have produced in four days pustules which would have been followed by ulceration. Nor can the results be explained by the accidental inoculation of staphylococci or streptococci, for the incubation period was too long and there were no signs of suppuration. M. Queyrat regards the lesions produced as abortive chancres produced in a "soil on the way to immunisation." They may be compared with the abortive vesicles produced when a person is vaccinated day by day.

[1] THE LANCET, Sept. 10th, 1904, p. 779.

HIGH POWER MICROSCOPY.

THE evening lecture at the Royal Institution on Feb. 17th was delivered by Mr. J. W. Gordon who took for his subject High Power Microscopy. In referring to methods of illumination Mr. Gordon made special mention of the method devised by Dr. Siedentopf. This is a variety of "dark-ground" illumination with cross lighting and was described in THE LANCET of July 16th, 1903, p. 116. Mr. Gordon then went on to say that with the compound microscope when objectives of very short focal length were employed, and eye piece enlargement of high magnifying power, it was practicable to get a magnification of, say, 2000 diameters. But in these circumstances the emergent pencil of light was extremely small, a state of things which involved serious practical inconveniences, so that the average scale of good critical work hitherto had ranged at about from 400 to 600 diameters. Mr. Gordon then proceeded to describe his own method of using a ground-glass oscillating screen placed in the tube at the point where the image was formed. This screen broke up the small pencil of light and passed it on as a broad pencil, the image carried by which could be magnified by a second microscope instead of the usual eye-piece, so that enormous magnifications, giving a clear image, could be obtained. The screen had to be kept in motion. It will be remembered that this method was exhibited by Mr. Gordon at the Royal Society's conversazione which was held in June, 1904, when a phagocyte which had ingested tubercle bacilli was beautifully shown.

"CONVALESCENT HOMES ASSOCIATION."

A CONFERENCE will be held in the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, London, W., on March 2nd at 4 P.M., of delegates from all the chief convalescent institutions which supply charitable relief to London patients. The object of the conference is to obtain some form of union and coöperation between the various convalescent homes by forming a central association which will be in immediate touch with the hospitals on the one hand and with the various homes

on the other. The following convalescent homes have decided to send representatives—viz., the Metropolitan Convalescent Institution; Mrs. Gladstone's Free Convalescent Home for the Poor, Woodford; Surrey Convalescent Home, Seaford; All Saints' Convalescent Home, Eastbourne; and probably St. Andrew's Convalescent Home, Folkestone. The Presidents of the Royal Colleges of Physicians of London and Surgeons of England and of the Hospitals Association and the Dean of the Faculty of Medicine of the University of London have signified their intention to be present if possible, and King Edward's Hospital Fund for London, the Metropolitan Hospital Sunday Fund, and the Metropolitan Hospital Saturday Fund intend to send delegates. It is expected also that leading medical representatives from the chief London hospitals, members of the medical profession, and leading laymen specially interested in this work will be present. Communications on the subject should be addressed to Mr. Alex. Hayes, secretary, Metropolitan Convalescent Institution, 32, Sackville-street, W., or to Dr. S. H. Habershon, 88, Harley-street, W.

THE medical officer of health of the Cape Colony states that for the week ending Jan. 28th the condition of the Colony as regards plague was the following. At Port Elizabeth 1 case of plague was discovered during the week, namely, a native female on Jan. 25th. Of 146 rats and 182 mice examined during the same period 1 rat and 4 mice proved to be plague-infected. At East London no case of plague in human beings was discovered but 7 rats and 1 cat were found to be infected. In other districts no case of plague was discovered. As regards the Mauritius, a telegram from the Governor, received at the Colonial Office on Feb. 17th, states that for the week ending Feb. 16th there were 6 cases of plague and 5 deaths from the disease.

As stated in THE LANCET last week the dinner in honour of the celebration of the hundredth anniversary of the birth of Señor Manuel Garcia will take place on March 17th, at 7.30 P.M., at the Hotel Cecil. Members of the profession who have subscribed to his portrait, painted by Mr. John Sargent, R.A., and who wish to attend the dinner are requested to communicate with Mr. Philip de Santi, 15, Stratford-place, London, W., one of the honorary secretaries of the Garcia committee, who has been intrusted with the arrangements for the dinner. The banquet will be attended by ladies and it is desirable that applicants for tickets should state the numbers which they require and whether they will be accompanied by ladies.

THE anniversary dinner of the Medical Society of London will be held at the Whitehall Rooms of the Hôtel Métropole on Wednesday, March 15th, at 7.30 P.M. Communications with regard to the dinner should be addressed to the honorary secretaries at 11, Chandos-street, W.

THE EPIDEMIC OF TYPHOID FEVER AT LINCOLN.

THE epidemic of typhoid fever at Lincoln appears to show at last some signs of abating but the signs are too slight to have any significance. The city has been sorely stricken and the inhabitants at the present moment are living not only in great discomfort but in considerable danger. The epidemic, excluding a few scattered cases, may be said to date from the third week in January and by Feb. 1st 268 cases had been notified. Additional cases were then notified daily, so that by the end of the first week in February over 500 cases were known to have occurred in the district, the official city total being 477. A fund was immediately opened for a supply of comforts for the patients. At the corporation offices gifts were received of clothing, bedding, and nightshirts, and a subcommittee of the health committee arranged for daily meetings. A systematic arrangement for nursing was placed under experienced control, while the local staff of nurses was largely augmented by nurses imported from other towns. Auxiliary hospitals had to be provided and at the same time the corporation issued instructions to the public with regard to the boiling of water and milk and the disinfection of sinks and drains. The big employers of labour in Lincoln coöperated splendidly with the efforts of the medical men. As well as subscribing largely to the various funds to secure nursing and adequate sick supplies they provided the families of their sick employés with free meals, and in other cases fed the men so as to lessen the risk for them of meals at their homes. In every way, in short, the city showed disposition to help the sufferers and to coöperate with the medical officer of health and the other medical practitioners of the town and neighbourhood in their earnest endeavours to stay the plague. The second week in February showed some abatement, the total for the week ending Feb. 13th being 154 cases, that for the first week of February being 268, while the shortage of pure water—for it speedily became obvious that the water-supply was at the bottom of the mischief—began to be counteracted to some extent by the carriage of water from neighbouring and presumably healthy sources. The whole story of the epidemic appears to be simplicity itself. None of the sanitary problems which often occur in connexion with sudden and severe outbursts of typhoid fever in urban communities are here present. The water-supply of Lincoln, which has for at least 20 years been known to be open to contamination, has at last been seriously poisoned. As far back as April 1st, 1885, the medical officer of health of the city, Dr. C. Harrison, presented a lengthy report on the water-supply of the city, showing that the river Witham, which is the chief source of supply, was dangerously open to outside contamination. Seven years later the Local Government Board expressed regret at learning that the corporation of the city had not decided to provide the town with a supply of water from an uncontaminated source. Between and since those dates the water-supply of the city has been amply discussed, sources of small contamination have been discovered and dealt with, and at last, five years ago, the council approved a plan of boring for water and three years ago boring proceedings commenced. In February, 1903, after one year's boring the boring tool was lost and the work has since been suspended and now the city is in a parlous state, having two needs to consider—what shall be done in the present emergency and what shall be done in the future?

As regards the present position the community is to be congratulated upon the courage and resource with which it has faced the situation. The sewage effluent from Bracebridge Asylum has been turned into the proper place for it—namely, the sewers—so that one obvious source of evil has been removed. The water supplied by the corporation, which must be drawn from the Witham, the corporation having no other source whence to procure it, is being treated with sodium or calcium hypochlorite in pursuance of an edict issued by the authority on Feb 9th. The corporation further recommends that the water should be boiled for ten minutes as an additional precaution. Various complaints have been received that the use of chemicals has given rise to colic, but not much stress must be laid upon the statement of a rightly aggrieved and naturally apprehensive public. Newark water is being supplied free of cost, by the generosity of a citizen of Newark, to the lower part of Lincoln daily and the upper part of the city is being supplied by the relief committee with water from Wilton. But much remains to be done. The total number of cases, now over 650, will certainly increase. There were nine fresh cases notified on Tuesday, Feb. 21st, and ten on Wednesday, so that the signs of abatement are, as we have said, slight. Between 650 and 700 cases of typhoid fever call for much hospital accommodation as well as much medical attention and nursing, and the provision that has so far been made with bravery and promptitude will not suffice. These are the problems of this grave emergency, but it is evident that the whole question of the water-supply of the city must be tackled in the immediate future, and the authorities, we understand, are convinced that this is so and are already consulting the engineer who was responsible for the water-supply of Manchester from Thirlmere as to the course to be taken.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER II.[1]

THE CONSTITUTION AND SCOPE OF THE GENERAL MEDICAL COUNCIL.

The Medical Profession and General Scientific Progress.—The Struggle for Registration.—The Medical Act of 1858.—The Powers of the General Medical Council.

THE state of the medical profession in Great Britain and Ireland is at present healthy. There are many drawbacks to the medical calling to which attention must be directed at more or less length; there are many places in which reform is needed and a few in which it is urgently needed; but it is unfortunate that some in the ranks of medicine who are most earnest in their desire for the well-being of their fellows should be unceasing in representing their profession as having fallen away in recent years from some higher estate. This is not the case. The story of the medical profession in England, Ireland, and Scotland alike is one of progress. During the last 50 years the art of medicine has been entirely revolutionised, every change in it being towards a transformation into an exact science. Our fields of knowledge have broadened with our capacity to till them, our tools have become more delicate and more precise, and the advances made in many of the provinces of exact learning other than medical have had an influence that cannot be overestimated upon medical views. Consequently the scientific equipment of the medical man of to-day differs in countless respects from that of his grandfather.

The expansion of knowledge that has taken place in medicine has been going on in all other branches of knowledge, whether nearly allied to medicine or not. Where the sciences more directly ancillary to medicine are concerned the old boundaries between them and medicine have been removed. No one can say exactly where chemistry stops and where physiology begins, what familiarity with electricity rightly appertains to the medical man's calling, or what knowledge of physics or of statistics should be presupposed in a medical practitioner. The significance of all this is very great and is not summed up in the least by saying that the medical student has nowadays much to learn. The many-sided and vast developments of science have, of course, changed the schemes of medical study, but they have done much more than this. They have altered the status of the medical man. For it has now come about that, instead of occupying, as he did, one peak of a tripartite eminence wherefrom the exponents of divinity, medicine, and law—"the learned professions"—were wont to survey an unlettered world, he has to submit to being classed with other practical workers who have an equal claim with him to be considered men of science. In a very interesting and suggestive book Mr. R. Brudenell Carter[2] has called attention to this fact and considers it to show that the medical profession does not hold so good a position in the public eye as it did 50 years ago. Mr. Carter is qualified by exactly the right practical experience to understand what he is talking about and is gifted with the best (because the clearest) literary ability to say what he means. But the situation can be read in another way. With the spread of knowledge the number has increased of persons who can appreciate the enormous difficulty of medical practice. These may not revere the medical calling as something too learned or too mysterious for their comprehension, but they respect it because of its scientific aims. Here and there a little learning may betray a man into a shallow criticism which considerably greater—or considerably smaller—information would have saved him from making, but this is a thing which will occur less and less frequently. The growing public acquaintance with scientific methods must lead to an improved estimate of medicine as long as medicine progresses. And medicine, being inextricably bound up with the ancillary sciences, must progress with them. The medical profession has nothing to fear from a more enlightened public; on the contrary, the better acquainted the public become with the teachings of science the more certain are those who follow the calling of medicine to find many and powerful sympathisers.

Fifty years ago the medical profession was divided into two classes, the consultants—i.e., the consulting physician and the operating surgeon—and the general practitioners. The division was more marked in England than it was in Scotland and Ireland and had been much stricter in the Regency and the following decades, inasmuch as the immediate effect of the passing of the Apothecaries Act in 1815 was to create an inferior order of general practitioners. Thackeray with his wonderful accuracy when drawing social types has revealed the situation in one sentence, the opening sentence of the second chapter of "Pendennis."

> Early in the Regency of George the Magnificent there lived in a small town in the heart of England, called Clavering, a gentleman whose name was Pendennis. There were those alive who remembered having seen his name upon a board, which was surmounted by a gilt pestle and mortar, over the door of a very humble little shop in the city of Bath, whence Mr. Pendennis exercised the profession of Apothecary and Surgeon, and where he not only attended gentlemen in their sick-rooms and ladies at the most interesting periods of their lives, but would condescend to sell a brown-paper plaster to a farmer's wife across the counter or to vend tooth-brushes, hair-powder, and ladies' perfumery.

Old Pendennis was the typical product of the Apothecaries Act and in his person the general practitioner cannot be said to have enjoyed any high social or scientific status. It is not meant to imply that old Pendennis was a fair example of the general practitioner up to the modern constitution of the medical profession by the passage of the first Medical Act in 1858. On the contrary, for 30 years before the passage of that Act the general practitioners, most of them holding diplomas from a Royal College and some being graduates of a University, had steadily improved their position and won their way to demanding the stability and official recognition which could only be insured by passing a measure of registration. It is unnecessary to write at length of the constitutional history of medicine in this country before the passing of the Act of 1858, which by creating the General Medical Council and giving to that body certain disciplinary powers revolutionised the position of affairs entirely. The story of the struggles which led to the passing of that Act will be found set out from different points of view in the Carmichael Essays of the late Mr. Walter Rivington and Dr. E. D. Mapother, in the late Mr. Fernandez Clarke's autobiographical reminiscences, and very fully in the columns of THE LANCET. It will be sufficient here to indicate the headings of an interesting story. In 1827 Mr. Henry Warburton, the Member for Bridport, a merchant and a business-like man who later made his mark in six consecutive Parliaments as a Free-trader, presented a petition from the Royal College of Surgeons of England for an inquiry by the House into the management of that wealthy and influential corporation. The request of the College was acceded to but no practical reform followed. A *fracas* in the College building led to the formation by Thomas Wakley, then editing THE LANCET, and some of his colleagues of an abortive scheme known as the London College of Medicine. The scheme was a failure from the beginning, but it contained in it two great ideas—the idea of one central governing body for the medical profession and of one entrance into the medical profession for all candidates. The London School of Medicine, instituted to meet the wants of

[1] Chapter I. was published in THE LANCET of Feb. 18th, 1905, p. 447.
[2] Doctors and their Work. By R. Brudenell Carter, F.R.C.S. London: Smith, Elder, and Co. 1904.

the rank and file of the medical profession who were sorely oppressed by the presence of quacks within their body and by the competition of quacks without, contained the germ of the first Medical Act, while it made the medical profession consider how necessary a central governing body must be to regularise the proceedings of medical education. The possibility of Parliamentary interference began to be apparent to all. Members of Parliament in various constituencies were asked to familiarise themselves with the idea, and in 1839 a Bill was introduced by Mr. Warburton which nearly succeeded in passing the House and which provided for the registration of medical practitioners. At this juncture Richard Carmichael, founder of the Carmichael Essays, President for the third time of the Royal College of Surgeons in Ireland and one of the most practical medical reformers of the day, wrote to Sir Robert Peel urging the necessity of registration and pointing out that uniformity of examination was also required so that the public might feel certain that by whatever portal a man entered the medical profession he could not obtain ingress without a certain equipment. Sir Robert Peel became interested in not allowing a great measure of domestic reform to be shelved and in 1840 a Bill providing for the registration of medical men was introduced by Warburton and Wakley, then a Member of Parliament, but the measure met with no success. It contained a suggestion that registered practitioners should take out an annual licence, a clause which was ill-received by medical men, although, as we know now, the merits of this reform were at least as obvious as its defects. In 1847 Wakley again obtained leave to bring in a measure entitled "A Bill for the Registration of Qualified Medical Practitioners and for Amending the Law relating to the Practice of Medicine in Great Britain and Ireland." This Bill, though it never became law, led to the appointment of a select committee of sound, shrewd, important men, whose deliberations resulted, though not immediately, in the Medical Act of 1858. Macaulay was the first chairman of the committee and representative members of all the qualifying bodies were examined at great length, with the result that in 1849 Mr. Rutherfurd, the Lord Advocate of Scotland, stated in the House that a measure providing for the registration of qualified practitioners in medicine would be laid on the table in a few days. It was found, however, that the various qualifying bodies from different motives of self-interest could not agree to support the Bill. One wanted one thing and one wanted another, and in face of the manifold opposition all attempt at legislation was again dropped. This want of ability in the qualifying bodies to combine for the common good was very mortifying to the medical reformers, and ten years elapsed before another serious attempt was made to pass a measure which all now admitted was wanted in the public behalf. In 1856, however, the Royal Colleges of England, Ireland, and Scotland, and the Faculty of Glasgow had a conference of representatives with the result that these important corporations came to an agreement as to their requirements. This appearance of unanimity led to early results, for in 1858 Mr. William Cowper introduced and secured the passage of the first Medical Act, the Act which, with its various amending measures, controls the medical profession at this day.

The Act, which is entitled "An Act to Regulate the Qualifications of Practitioners in Medicine and Surgery," states in the first clause, as the reason for its existence, that "it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners." The measure was clearly designed to protect the public, any benefit that might accrue from it to the medical profession being of secondary importance. The General Medical Council was called into being by the Act which settled that certain universities and bodies should be entitled to grant medical qualifications and that representatives of those bodies, together with six nominees of the Crown, should form a central authority for the education of the medical student and the maintaining the official roll of the profession. The constitution of the Council has since been altered in two respects, notably by an amending Act in 1886. Additions have been made to the number of recognised qualifying institutions, while the members of the medical profession have been allowed to elect five of their number as Direct Representatives, three for England and one each for Scotland and Ireland. To appraise the scope of the Council's work is practically to define what has been done by the Medical Acts. The Council, then, is authorised to keep a medical register, intended to enable the public to distinguish qualified from unqualified practitioners and containing the names of all persons who are legally qualified medical practitioners and who, by virtue of their registration, are entitled to recover their professional charges in a court of law, to give valid medical certificates, to appear as medical witnesses, and to hold various offices or appointments. The Council cannot prevent the public inviting medical aid from persons not on the Register. Nor can the Council take any proceedings against such persons so long as they do not infringe the Act by pretending to be on the Register. The Council keeps the official roll of the profession but has no discretion with regard to registration. The Registrar is bound to insert the name of all applicants who are provided with the degrees, diplomas, or licences specified in the Medical Acts. The Council is authorised to remove from the Register, and thus to deprive of the above-mentioned legal privileges as practitioners, any persons who are convicted of crime or misdemeanour, or who may be adjudged by the Council itself, after due inquiry, to have been guilty of "infamous conduct in any professional respect." The clause of the Act under which its penal powers are exercised runs:—

> If any registered medical practitioners shall be convicted in England or Ireland of any felony or misdemeanour or in Scotland of any crime or offence or shall after due inquiry be judged by the General Council to have been guilty of infamous conduct in any professional respect the General Council may, if they see fit, direct the Registrar to erase the name of such medical practitioners from the Register.

It will be seen that there is no attempt at defining what constitutes "infamous conduct in a professional respect," and one of the most delicate and responsible of the Council's duties is to decide upon the justice of removing offending persons from the Medical Register. The Council is authorised to require from any of the licensing bodies information with regard to the courses of study and examinations to be gone through in order to obtain their respective registrable qualifications and to visit and to inspect the examinations. In the event of the Council considering the courses of study and the examinations insufficient to guarantee the possession by the persons obtaining the qualifications of due knowledge and skill for the efficient practice of their profession the Council can represent the fact to the Privy Council, the department of State to which it owes allegiance. The Privy Council can take such action as may be necessary. To the General Medical Council, also, is given the duty of preparing and publishing the British Pharmacopœia.

The powers of the Council as the controlling medium of the conduct of medical practitioners are elastic, but the reason of the phraseology of the Act becomes apparent when we remember that the Council exists for the protection of the public and not for the protection of the medical profession. The legislature evidently contemplated the possibility of conduct on the part of a medical practitioner which, while it might be insufficient to bring him within the grasp of the criminal law, would be amply sufficient to show his unfitness to be trusted with professional opportunities and responsibilities. The Council is intrusted with

the power of deciding upon the professional behaviour of a medical man and is empowered to erase the name of anyone from the Register who does not behave in a manner befitting his delicate position towards the public. But the effect of removing a medical man from the Register is, of course, to deprive him absolutely of any legalised medical status and of any power of legally earning his living as a medical practitioner. In the case of the criminal this is not of great matter, for it is difficult to conceive any circumstances in which the medical profession and the public alike would not be benefited by the removal of a convict from the official roll, but in the case of the man whose offence is rather a proof of bad taste or bad form than of wickedness the Council shrinks from taking the extreme step of erasure in any but very gross cases. This was particularly the case when erasure from the Register was permanent, as it was in the first instance, and the terrible nature of the punishment now and again led the Council to err on the side of leniency, but an ingenious procedure, suggested to the Council by its solicitors, gave power of restoration to the Register, so that the punishment of an offender can now be made more nearly to fit the crime.

Such, briefly, are the powers and duties of the General Medical Council and for practical purposes to understand what the Council can do and cannot do is to understand the position of the practitioner under the Medical Acts. In describing the state of the medical profession in England, Scotland, and Ireland in the subsequent chapters the various obstacles that beset the path of the practitioner will be detailed. It will be found frequently that although his grievance may be acute the Council is unable to help him owing to the limitations of its powers and the very definite object of its creation—viz., the public weal. But this is not at all generally understood. What is the commonest form that the letters to the medical or lay press of the aggrieved member of the medical profession take? Surely it is to ask "Why does not the General Medical Council put down quackery?" or "Why does not the General Medical Council prevent the holder of a bogus American degree from practising?" The Council does not do these things because it has not the power under the Act and the amendments thereof to which it owes its constitution. The Council can only interfere when the quack pretends to be a properly registered person. Then under the clause of the Act which says that the Register is to be compiled for the instruction of the public, so that the public may be able to discriminate between the properly qualified medical man and the quack, the Council can take legal proceedings. It must be clearly stated that the Council, as at present constituted, cannot defend either the public or the medical profession in the way that it is often invited to do. The remedy for this ineffectiveness is amendment of the Acts.

(To be continued.)

MEDICINE AND THE LAW.

A Mysterious Case.

AT Gravesend recently an inquest which lasted for four hours elicited some curious facts relating to the death of a married woman named Cohen which are stated below in outline without comment. The deceased apparently kept a shop without the assistance of her husband who was absent during the day and who, according to his account, did not exercise any control over his wife's actions either in business or otherwise. On Jan. 13th a man came into the shop to buy a necktie and according to his account given before the coroner Mrs. Cohen, thinking that she recognised him, engaged in conversation with him and on learning that he was a medical man, a stranger to the district, said that she did not like the local medical practitioners. He subsequently had tea with her, was introduced to her husband, and on the following Sunday, Jan. 15th, came to see her again and remained as a lodger. On the Monday she consulted him about her health, when he prescribed for her, believing that she was suffering from general weakness and catarrh. She subsequently became very ill and he diagnosed pneumonia, no other medical man being called in. On the Saturday, Feb. 4th, Mrs. Cohen died and he signed a certificate as the cause of death on a form which he had had in his pocket for nine years. Examined by the coroner and in answer to questions from the jury he seems to have been unable to refer to any regular or continuous practice of recent date in which he had been engaged and he acknowledged that he had never resided at 11, Beaufort-road, Clifton, the address recorded as his in the Medical Register. His name he stated to be Arthur Piercefield Walters. Mr. P. L. G. Skipworth, who had made a post-mortem examination, gave evidence that the deceased had suffered from pleurisy and pericarditis but not from pneumonia. She also appeared to have had an "accident" within three weeks. The immediate cause of death, in his opinion, was heart-failure following that state which was incomplete. There was nothing to show how it had been caused. The jury, following the direction of the coroner, found a verdict that "Death was due to natural causes, in accordance with the medical evidence," and added a rider, in which the coroner concurred, to the effect that the husband had been neglectful in not calling in another medical man and that Mr. A. P. Walters had been indiscreet in residing in the house while attending on the deceased.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 24, 1827.

FOREIGN DEPARTMENT.

ANATOMY AND PHYSIOLOGY.

*Remarkable case of a Triple Dentition.**

THE following curious case has been inserted in Omodei's Journal, communicated by a Dr. Aimonino:

Elizabeth Morelli, who was a well formed woman, had enjoyed good health, and had never suffered any inconvenience, except from a few attacks of tooth-ache, for which she had been now and then bled. During one of these attacks of tooth-ache, which occurred about the middle of March in 1821, she was induced, from the severity of the pain, to have the two left molar teeth pulled out. Toward the end of October in the same year, she felt some very acute pain in the part from which the teeth had been pulled out, and soon after two new teeth made their appearance. In January 1826, the new teeth became loose, and, causing considerable pain, she had them also drawn out. These teeth were very white and well shaped, without the least appearance of caries. On the 16th of July in the same year, the patient consulted Signor Aimonino, complaining of intolerable pain in the same part of the jaw as before. General and local antiphlogistic measures were tried without avail, and on the 18th, the patient perceived that two teeth of the same figure and size as the former had again made their appearance; these teeth were seen by Aimonino, so that there can be no doubt of the accuracy of the report of the case.

Although this has been called a case of triple dentition, it might with greater propriety have been called a *quadruple* dentition, since the temporary teeth are not included in the history of the case.

PATHOLOGY.

On the causes of Hernia in Soldiers.

It has been recently reported to the Academy of Medicine, that hernia has been frequently traced to the practice, existing among infantry soldiers, of firing in triple ranks. Kempfer, surgeon of a Swiss regiment of the Royal Guard, has affirmed that many cases of hernia have been produced by the sudden manner in which the privates are taught to descend on one knee after having discharged their muskets, so that their comrades in the rear may fire over their heads.

* Annali Univers. di Medicina di Milano.

HOSPITALS AND MEDICAL SCHOOLS.

WE have received from the honorary secretaries of King Edward's Hospital Fund for London a copy of the report of the committee appointed by the Fund to inquire into the financial relations between hospitals and medical schools. The committee, it may be remembered, consisted of Sir Edward Fry, the Bishop of Stepney, and Lord Welby, and their report is as follows:—

To H.R.H. THE PRINCE OF WALES, K.G.

SIR,—1.—In October last your Royal Highness, as President of King Edward's Hospital Fund, was pleased to request us to undertake the inquiries indicated in the following terms of reference and instruction:—

"To consider and report—

1. Whether any, and if any how much, money given or subscribed for the relief of the sick poor to the 12 London hospitals having medical schools is contributed, directly or indirectly, by those hospitals, or any of them, for the maintenance of medical education.
2. Whether any direct or indirect return for such contributions (if any) is received by the hospitals from their medical schools and if so whether such return is equivalent to the amount of the contributions.
3. Whether, in the event of the committee finding that any hospital contributes to its medical school a sum in excess of the return it receives from the medical school, there are any special considerations advanced in justification of such expenditure, or any general considerations which would apply to all hospitals having medical schools.

It is an instruction to the committee to deal with the subject on the basis of the existing arrangements and to accept from the hospitals as existing arrangements any such as they may advise the committee will be in operation on Jan. 1st, 1905."

2.—We have the honour respectfully to submit the following report of our proceedings and of the result of our inquiries under the foregoing reference.

3.—At our first meeting, on Nov. 4th, 1904, we settled a form of return, which we addressed to the 12 London hospitals which have schools in connexion with them. A copy of this form will be found in the first appendix to this our report.

4.—On Dec. 7th, 8th, and 10th, 1904, and Jan. 17th, 1905, we heard the oral statements of witnesses, a shorthand note of whose evidence appears in the second appendix to this our report. Furthermore, we have also met on Dec. 9th, 1904, and received and considered the replies of the 12 hospitals to the forms of return, a statement laid before us by the Hon. Stephen Coleridge, and a summary which has been prepared of the reports of the ordinary expenditure of the 16 largest London general hospitals for the year 1903.

5.—The replies of the hospitals to the forms of return have undergone a close examination and have been the subject of interviews between certain of the authorities of the hospitals and the committee and of correspondence between our honorary secretary and some of these authorities, and the original replies have in several cases been modified. The best results of this examination which we are able to supply will be found in the third appendix to this our report.

6.—We find it impossible to answer the first head of inquiry in the terms in which it is addressed to us for the following reasons:—That in the case of several of the hospitals (as St. Mary's) the hospital and school were founded together and the school as well as the hospital appears to have been an object of bounty in the minds of the founders; that in some cases (as University College Hospital) the hospital was founded as an aid to the school; that in some cases (as Charing Cross and Westminster Hospitals) the school buildings were provided or partly provided by money subscribed for the specific purpose or for a joint purpose of which the provision of school buildings formed a part; that in other cases sums have been contributed to hospitals, subsequent to the foundation, of which, to the knowledge of the donors, a portion was applied to the school, as, e.g., in the case of the London Hospital, where a contribution to the school has been made yearly under resolutions passed at meetings of the subscribers entitled to vote under the rules; and that where the hospital and school form a single conjoint institution (as in the case of the Middlesex Hospital) and contributions have been made to that institution it is obviously impossible to say how much was given for the relief of the sick poor and how much for the promotion of medical education.

7.—In our investigation of the matters arising under the first inquiry we have therefore, but of course merely for purposes of convenience, treated the question as if modified by the deletion of the words "for the relief of the sick poor" and as if all the moneys contributed to the hospitals were properly applicable to the hospital only and not to any extent to the school.

8.—But, even after eliminating this difficulty, we have found that the very intimate and complex relations which have grown up between the hospitals and the schools present insuperable difficulties to the preparation of a statement showing the actual cash value of the balance between contributions in money or kind made by the hospitals to the schools and by the schools to the hospitals; and this altogether apart from considerations as to the value of the work done by the schools for the hospitals. Frequently the ground on which the school buildings stand is the property of the hospital but the buildings have been erected by the school. In some cases parts of the buildings of the hospital are used conjointly for the purposes of hospital and school, especially in the case of pathological and bacteriological laboratories, and the apportionment of charges between two departments of the single institution would be a proper subject for the decision of experts. Another difficulty arises in connexion with capital expenditure by the hospitals on account of the schools. In the case of St. Bartholomew's Hospital records of considerable debts, said to have been incurred by the school as far back as 1843, and still remaining undischarged, are extant, and it must be obvious that the yearly cost to the hospital of such debts, which appear to have borne no interest, could only be accurately estimated after an elaborate inquiry involving questions as to the constitution of the body it is sought to make liable and the admission of any liability by such body, if it actually exists, whether legal or otherwise. The question of the value of land is also important and can only be satisfactorily dealt with by competent surveyors, as we find that the rateable value in the case of hospitals is an untrustworthy guide, even if the school buildings were capable of being separately rated, which in some instances is scarcely the case.

9.—We have therefore thought it better to confine ourselves to statements of fact in regard to each hospital, and these will be found in the Third Appendix, which we adopt as part of our report. We believe the facts fairly cover the ground of inquiry, but the assessments of the money values which should be set against considerations which do not take the form of money payments must be left to professional valuers should it be thought desirable to further prosecute these inquiries.

10.—We have, however, no hesitation in reporting that in the cases of King's College Hospital and University College Hospital it may fairly be said that no money given or subscribed to those hospitals was in the year 1903 (the last year for which the accounts are complete) contributed directly or indirectly by the hospitals for the maintenance of medical education.

11.—In the cases of Guy's Hospital and the Royal Free Hospital we doubt whether, on consideration of all the circumstances (and especially in the case of Guy's Hospital to the facts stated by the Dean of the Medical School, see Appendix III.), the schools can be considered as deriving any pecuniary benefit from the hospitals.

12.—In the case of all the other hospitals—namely, Charing Cross, the London, the Middlesex, St. Bartholomew's, St. George's, St. Mary's, St. Thomas's and the Westminster, we report that, in our judgment, contributions, either direct or indirect, or both, were made in the year 1903, to the schools out of the funds of the hospitals.

13.—With reference to the first part of the second head of inquiry—viz., whether any direct or indirect return for the contributions made by the hospitals to the schools is received by the hospitals from the medical schools—we have come to the following conclusions:—

14.—(A) We find that, in some cases, the fact that a large body of students and of medical men are being, or have been, educated in a hospital, diffuses a wide interest in that institution and thus tends to aid the finances of the hospital.

15.—(B) We find that the presence of a body of eager young men watching the proceedings of their teacher has the tendency to keep the medical man on the alert and to counteract the effects of the daily routine of duties; and that the opportunity for teaching a large number of pupils attracts to hospitals with schools the gratuitous services of the most eminent men in the profession.

16.—(C) We think that the publicity which attends the work of a hospital where there is a body of young men in attendance also tends to maintain at a high level the whole work of the institution.

17.—(D) It has been urged before us that the great amount of work done without payment, or with inadequate payment, by students in the character of medical clerks and dressers and in connexion with the outpatients and the casualty cases constitutes a pecuniary advantage received by the hospital from the school; but the evidence satisfies us that the expenses incurred in hospitals with schools are generally in excess of those in hospitals without schools and we are of opinion that no saving of expense can be attributed to the presence of medical students. On the contrary, some of the evidence before us, together with a study of the accounts of the various hospitals, has brought to our attention remarkable variations in the expenses incurred by the several hospitals, and raises the important question whether, in the case of some of the hospitals to which schools are attached, there is not considerable extravagance and waste in the expenditure.

18.—(E) With regard to the welfare of the patients this depends so largely on the character of the individual medical men and nurses concerned with each case that it is difficult to draw any line between the two classes of hospitals. Probably, in cases of great obscurity and difficulty, the presence of a large number of students may at times be useful; but, on the other hand, we think that the quiet of a hospital without students must often be a comfort to patients and, on the whole, we do not think that the hospitals with schools can substantiate any superiority in this respect over other hospitals.

19.—(F) As regards the advancement of medical science and the consequent benefit to the public the existence of a medical school is, in our opinion, of the highest value. London probably offers the greatest facilities of any city in the world for clinical teaching and for surgical and medical research and we regard it as of the highest importance that the greatest use should be made of these facilities. In making this statement, however, we feel bound to call attention to what we have said in a subsequent paragraph of our report (paragraph 25).

20.—We cannot doubt that the presence of a medical school has a tendency to give to the management of a hospital a progressive character as well as an interest in experiments tending to the advancement of medical and surgical science. But it seems to follow, as a consequence in such cases, that the real administration of the hospital will be placed mainly under the control of the medical staff and that the expenditure of the hospital will thereby tend to increase. On the other hand, though the absence of a school may have a tendency to give to the management of the hospital a stationary character and to leave the administration mainly in the hands of a lay body of managers, the evidence before us shows that some hospitals without schools are excellently conducted and can compare favourably with some hospitals with schools.

21.—By the second part of the second head of reference we are asked to ascertain in each case whether the direct and indirect return received by the hospital from its medical school is equivalent to the amount of the contribution made by the hospital to the school. Inasmuch as the returns, whether direct or indirect, are of a general kind and cannot be reduced to definite figures in money value, we find it impossible to give a categorical reply to this inquiry. But the general conclusion at which we have arrived is the following. The schools confer certain considerable benefits on the hospitals, and the hospitals, by opening their doors to the students, provide a clinical laboratory and allow the students of the school to work there. This confers on them a very great benefit because without the admission to the hospital the students could obtain little or no clinical teaching. These mutual benefits may, we think, be fairly set off the one against the other.

22.—If that be done, as we think it fairly may be, it follows that, in the case of the schools which last year received benefits in money or money's worth from the hospitals over and above the benefits last alluded to, there is no return made by the schools to the hospitals which can be treated as recouping this expenditure of the hospitals, and that (subject always to the observation made in paragraph 7) the schools still remain debtors to the hospitals in respect of the pecuniary contributions made to them.

23.—We answer the third specific head of inquiry by saying that, beyond the matters to which we have already referred, we do not find that any special considerations have been advanced in justification of the expenditure by the hospitals on the schools, or any general considerations which would apply to all hospitals having medical schools.

24.—Such are our replies to the specific matters referred to us; but we desire to add that, in the course of our inquiries with a view to these replies, certain matters have come before us so closely connected with the subjects of the reference that we think it desirable to lay before your Royal Highness the impressions produced on our minds.

25.—We have formed the opinion that a broad line of distinction ought to be drawn between the studies of the first three years of a medical student's curriculum and the studies of the last two years—or, in other words, between the preliminary and intermediate studies on the one hand and the final studies on the other; and that whilst the latter studies can only be pursued with advantage within the walls of a hospital, and nowhere in the world with more advantage than in London, the earlier studies have no real relation with a hospital, and are therefore more properly to be pursued in an institution of a university character; and, further, that the attempt of many of the hospitals to associate with themselves schools teaching the preliminary and intermediate subjects is a great, if not the chief, source of the exhausted condition of the funds of many of the schools and the consequent demand of the schools on the funds of the hospital.

26.—It is therefore with great satisfaction that we find that the Statutes of the University of London (paragraph 80) direct the Senate to "use its best endeavours whenever practicable to secure such common courses of instruction for internal medical students in the preliminary and intermediate portion of their studies under appointed or recognised teachers at one or more centres"; and if this object can be carried into effect we believe that it will free some of the schools from burdens which they find it difficult to bear.

27.—The great uncertainty which, in many or all cases, attends any attempt to ascertain the intentions of the original founders of the hospitals and medical schools, the impossibility of knowing what were from time to time the exact motives in the minds of the subsequent donors and subscribers, and the complexity of the relations which have existed between hospitals and schools, seem to render any attempt to open up the transactions in the past between the hospitals and schools very undesirable, even if it were possible. But for the future the matter is different; and we venture to submit that the distinction between the hospital and the school should in every case be drawn, not only definitely and exactly, but with such clearness that it may be understood by the general public, and so that no question may arise as to the destination and application of moneys contributed, whether by the King's Fund or from any other source.

28.—Finally, we cannot conclude this report without thanking our honorary secretary for the great aid which he has afforded us throughout the course of our inquiries.

We have the honour to be, Sir,

Your Royal Highness's most obedient servants,

EDW. FRY,
C. G. STEPNEY,
WELBY.

J. Danvers Power, Hon. Secretary, 8th February, 1905.

THE AUTOMOBILE EXHIBITION AT OLYMPIA.

AUTOMOBILES have never been displayed in England to better advantage than at the exhibition at Olympia at West Kensington, which came to an end on Monday evening last. The vast building is an ideal one for such a purpose; but it was none too big for the demands made upon its space. All the exhibits were excellently staged and must have been an object lesson to the uninitiated on the vast industry which has grown up more or less in our midst in the course of a very few years—an industry which is fast becoming "all British," and therefore the more pleasing viewed in the light of our so-called insular prejudices.

The automobiles included every form of ordinary car, from the smallest "runabout" and "buckboard" to the stately and luxurious De Dietrich 40 h.p. touring car, "fitted up as a miniature hotel, with easy chairs for the day time, beds for night travelling, and all conveniences, including cooking-stove, linen cupboard, pantry," &c., as the catalogue puts it. There were also several specimens of luxurious motor-boats, a 40-feet Napier river cruising launch, with its four cylinder ten h.p. motor in a glazed case and its fittings all silver-plated, well entitling it to its designation of *modèle de luxe*. A formidable-looking craft, in contrast, was the 40-feet steel torpedo-boat shown by Messrs. Thornycroft, with its torpedo slung over the side, carried in toggle lever jaws, and developing 108 h.p. with its four-cylinder petrol engine.

In the "heavy" or "commercial" section was to be found perhaps the greatest development of the motor industry—that development which is to revolutionise the road traffic of this and all other civilised countries. And in this connexion the excellent specimens of motor omnibuses on exhibition attracted much attention. Messrs. Thornycroft had a 36-seated double-deck petrol omnibus, the Milnes-Daimler Co. a similar vehicle and Messrs. Straker and Squire one built to the order of the London Road Car Co. to carry 34 passengers. Of parcels and delivery vans, wagons, and such-like vehicles there were many on view, including a seven-ton wagon built for the War Office and a five-ton railway company's wagon. Agricultural motors by the Ivel Co., for attaching to ploughs, reapers, binders, and mowers, and for driving all kinds of farm machinery; an armoured motor, by the same company, for hauling guns into the firing lines, which is protected by a bullet proof cover; a motor lawn mower by Messrs. Ransome, and several other developments, all bore witness to the more than partial eclipse of the horse in the very near future.

To turn to the class of vehicles in which the readers of THE LANCET may be said to be more particularly interested, it cannot be claimed that there is any material departure from the designs of last season; rather have the makers turned their attention to perfecting those minor details which add so much to the trustworthiness of the motor-car and to the comfort of those using it. A point which was particularly in evidence was the greater attention which is being paid to the coach-work and upholstering—a feature to be attributed to the fact that some of the best known carriage-building firms are now awaking to a due appreciation of the great strides being made by the motor industry, and are working accordingly.

To attempt to enumerate or to describe in even the slightest detail the many hundreds of cars on view is an impossibility within the limits of space at our disposal, and therefore it must suffice to say that Humber and Co., the Siddeley Autocar Co., S. F. Edge, Limited, the Duryea Co., Panhard and Levassor, E. H. Lancaster, C. S. Rolls and Co., De Dion Bouton, Limited, the Daimler Motor Co., Minerva Motors, Limited, Sir W. G. Armstrong Co., Charles Jarratt and Letts, Limited, the Hozier Engineering Co., Limited, the Ariel Motor Co., the Vauxhall Ironworks Co., Limited, J. E. Hutton, Limited, A. Darracq and Co., John Marston Limited, Orleans Motor Co., and Clement-Talbot, Limited, had on view cars which especially attracted our attention, though it is quite possible—indeed, almost a certainty—that several equally meritorious vehicles of other firms escaped our attention altogether. Many, of course, were of the distinctly "luxurious" class, altogether beyond the means of the average general practitioner, but there were many at prices ranging between £300 and £500 which would be found quite suitable cars for the hard daily work required in the practice of the medical man, and which would also be calculated to give a satisfactory return for the capital invested.

In the gallery were to be seen the hundred-and-one details commonly termed "accessories," which may be broadly held to include everything other than the framework and body of the car, and to include also the clothing of its occupants. The accessories generally do not call for any comment at present, but the question of tyres is an all-important one. To the medical man especially this may be said to be the point upon which hinges his decision in the question of motor *versus* horse. There is no room for doubt now that, so far as the motor itself is concerned, the experimental stage has been passed: it has become a perfectly trustworthy instrument in the hands of the man of average intelligence. But no such hall-mark can be set upon the tyres: they have a far more severe duty to perform in the hands of the experienced and inexperienced alike. Makers are no doubt doing their best, and that best has been successful up to a certain point; but the ideal is far from having been reached at present. If the judgment of the majority is to be accepted on this point, Dunlop tyres are easily first, with Michelin and Continental following closely behind; but we are inclined to to the belief that for the medical practitioner, to whom freedom from punctures is of the utmost moment, some such tyre as that known as the Palmer cord tyre is likely to be the best investment. Collier tyres, too, are worthy of note in that they are spoken of very highly on account of their non-puncturing qualities. That makers are alive to the drawbacks connected with pneumatics is patent from the efforts which are being made in connexion with solid tyres, notably so with the De Nevers

grooved solid tyre, the Goodrich, the double arch, and the Sirdar buffer tyres. We do not suggest that the present-day solid tyre is suitable for the medical man who is constantly using his car; the vibration set up, especially on bad roads, would become unbearable and harmful.

To sum up the result of our observations, we are convinced that the day of the cheap and trustworthy motor is not yet, and we are prepared to proffer the opinion that it never will be. Cheapness and "reliability" in motor construction do not synchronise: the former is ever throttling the latter. No motor-car to stand constant work, the sort of work that the general practitioner would want to extract from it, can yet be put upon the market at less than from £300 to £400, though many excellent little cars suitable for occasional and week-end uses can be had for much less.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8309 births and 5189 deaths were registered during the week ending Feb. 18th. The annual rate of mortality in these towns, which had been 18·4, 18·0, and 17·4 per 1000 in the three preceding weeks, further declined to 17·3 per 1000 last week. In London the rate was 16·8 per 1000, while it averaged 17·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·1 in Aston Manor, 7·5 in King's Norton, 7·6 in Handsworth (Staffs), 8·3 in Coventry, 9·3 in Hornsey, 10·5 in Leyton, 10·6 in Smethwick, 11·0 in East Ham, and 11·2 in Walthamstow; the highest rates were 24·1 in West Hartlepool, 24·7 in Merthyr Tydfil, 25·8 in Ipswich, 25·9 in Stockton-on-Tees, 26·1 in Preston, 28·2 in Hanley, 30·5 in Portsmouth, and 35·0 in Rhondda. The 5189 deaths in these towns last week included 410 which were referred to the principal infectious diseases, against 376, 368, and 401 in the three preceding weeks; of these 410 deaths, 129 resulted from measles, 118 from whooping-cough, 67 from diphtheria, 44 from scarlet fever, 28 from diarrhœa, 22 from "fever" (principally enteric), and two from small-pox. No death was registered from any of the principal infectious diseases in Hastings, Brighton, Bournemouth, Great Yarmouth, Walsall, Handsworth (Staffs), Smethwick, Aston Manor, or Barrow-in-Furness; while they caused the highest death-rates in Portsmouth, Reading, Hanley, Nottingham, Preston, Stockton-on-Tees, South Shields, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Leyton, Portsmouth, Southampton, Reading, Nottingham, Stockton-on-Tees, Gateshead, Cardiff, and Merthyr Tydfil; from scarlet fever in Merthyr Tydfil; from diphtheria in Coventry, Salford, and Swansea; from whooping-cough in Hanley, Wigan, Preston, Halifax, Rotherham, Hull, South Shields, and Rhondda; and from diarrhœa in Bury. The mortality from "fever" showed no marked excess in any of the 76 towns. Of the two fatal cases of small-pox registered in these towns last week one belonged to London and one to Bradford. The number of small-pox patients under treatment in the Metropolitan Asylums Hospitals, which had been 15, 13, and 9 at the end of the three preceding weeks, had further declined to eight at the end of last week; three new cases were admitted during the week, against one in each of the two preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday, Feb. 18th, was 2016, against 2096, 2070, and 2077 on the three preceding Saturdays; 241 new cases were admitted during the week, against 251, 229, and 260 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 478, 444, and 400 in the three preceding weeks, further declined to 378 last week, but were 29 above the number in the corresponding period of last year. The causes of 57, or 1·1 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Nottingham, Cardiff, and in 47 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Warrington, Blackburn, Preston, Sheffield, Sunderland, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·3, 19·9, and 18·2 per 1000 in the three preceding weeks, rose again to 18·9 per 1000 during the week ending Feb. 18th, and was 1·6 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·8 in Leith and 16·3 in Edinburgh and in Greenock to 22·2 in Dundee and 24·4 in Perth. The 633 deaths in these towns included 25 which were referred to whooping-cough, 13 to diarrhœa, seven to "fever," four to measles, and three to diphtheria, but not any to small-pox or scarlet fever. In all, 52 deaths resulted from these principal infectious diseases last week, against 79, 85, and 49 in the three preceding weeks. These 52 deaths were equal to an annual rate of 1·6 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 46 and 23 in the two preceding weeks, rose again last week to 25, of which 20 occurred in Glasgow and four in Edinburgh. The deaths from diarrhœa, which had been 19 and nine in the two preceding weeks, increased again to 13 last week and included six in Glasgow, three in Leith, and two in Dundee. The fatal cases of "fever," which had been six, four, and five in the three preceding weeks, further rose last week to seven, of which three cases of enteric fever were registered in Glasgow and three of typhus in Aberdeen. The deaths from measles, which had been six, six, and seven in the three preceding weeks, declined to four last week and included three in Glasgow. The deaths referred to diseases of the respiratory organs, which had been 163, 146, and 130 in the three preceding weeks, further declined last week to 119 and were 48 below the number in the corresponding period of last year. The causes of 16, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·5, 24·2, and 25·2 per 1000 in the three preceding weeks, declined again to 23·5 per 1000 during the week ending Feb. 18th. During the past four weeks the death-rate has averaged 24·6 per 1000, the rates during the same period being 17·7 in London and 19·5 in Edinburgh. The 171 deaths of persons belonging to Dublin registered during the week under notice were 18 below the number in the preceding week and included eight which were referred to the principal infectious diseases, against 18, 9, and seven in the three preceding weeks; of these, three resulted from "fever," two from measles, one from diphtheria, one from whooping cough, and one from diarrhœa, but not any from small-pox or scarlet fever. These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·1 in London and 0·9 in Edinburgh. The fatal cases of measles, which had been 13, five, and none in the three preceding weeks, numbered two last week. The three deaths from "fever" were slightly in excess of the number in the preceding week. The 171 deaths in Dublin last week included 27 among children under one year of age and 30 among persons aged 60 years and upwards; the deaths of infants corresponded with the number in the preceding week, while those of elderly persons showed a small decline. One death from violence and six inquest cases were registered; and 64, or more than a third, of the deaths occurred in public institutions. The causes of seven, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: H. J. Haddon to the *Renown* on commissioning with nucleus crew; H. Elliott to the *Hannibal*; J. McElwee to the *Empress of India*; and F. J. Burns to the *Bacchante*. Staff Surgeon R. F. Bate to the *President* for three months' hospital course. Surgeons: F. C. B. Gittings to the *Hannibal*; M. Cameron to the *Pembroke*, lent to Chatham Hospital; T. W. Myles to the *Vivid*, lent to R.M. Infirmary, Plymouth; A. D. Spalding to the *Vernon*, additional for the *Niger*; E. Arkwright to the *Flora*; J. A. L. Campbell to the *President*, additional, for three months' hospital course; and K. H. Jones to Hong-Kong Hospital.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. Magill, C.B., to be Colonel, vice A. H. Anthonisz, retired (dated Dec. 22nd, 1904). Lieutenant-Colonel H. R. Whitehead to be Colonel, vice J. M. Beamish, retired (dated Jan. 26th, 1905).

The undermentioned Lieutenants are confirmed in that rank:—D. D. Paton, J. A. Longley, N. E. Dunkerton, S. C. Bowle, G. S. C. Hayes, C. Ryley, P. Dwyer, P. C. T. Davy, W. H. Hills, J. F. C. Mackenzie, H. T. Wilson, R. C. Hallowes, J. Campbell, G. A. D. Harvey, H. C. Winckworth, H. W. Russell, E. J. H. Luxmoore, H. C. Sidgwick, M. Sinclair, G. R. Painton, N. Low, A. H. Fraser, R. H. L. Cordner, A. T. Frost, K. A. C. Doig, P. A. Jones, H. O. M. Beadnell, C. R. Millar, G. H. Richards, and J. St. A. Maughan.

The undermentioned gentlemen to be Lieutenants on probation (dated Jan. 31st, 1905):—Charles Pinkerton Thomson, George Wykeham Heron, Robert John Bertram Buchanan, George Brooke Forbes Churchill, William Steward Nealor, James Edward Hoar, Richard Graves Meredith, Frederick Emilius Roberts, George Smith Wallace, Wilfred Parsons, Arthur Anderson McNeight, Ernest Brabazon Booth, Thomas Holroyd Gibbon, Richard James Campbell Thompson, Ernest George Robert Lithgow, Pierce Power, Charles William O'Brien, Ryder Percival Nash, James Sydney Pascoe, Cecil Dacre More Holbrooke, John Maurice Bisdie Rahilly, George Grant Tabuteau, Richard Edmond Humfrey, William George Maydon, and Garfield Ormrod.

The undermentioned Lieutenants are seconded under the provisions of Article 349, Royal Warrant for Pay and Promotion, Oct. 26th, 1900 (dated Jan. 31st, 1905):—G. W. Heron, J. M. B. Rahilly, and R. J. C. Thompson.

INDIAN MEDICAL SERVICE.

The King has approved of the following admissions to the Indian Medical Service:—To be Lieutenants (dated Sept. 1st, 1904): Horace Sidney Matson, Donald Steel, Francis Hugh Stewart, Hampton Atkinson Dougan, Alexander Cameron, Alfred Henry Proctor, Robert Tait Wells, Ian Macpherson Macrae, Charles Cecil Connock Shaw, Roderick Dear MacGregor, James Wilson Herbert Babington, Alexander Spalding Mackie Peebles, and Francis Broughton Shettle.

The King has also approved of the retirement from the service of the undermentioned officer:—Surgeon-General Sir Benjamin Franklin, K.C.I.E., K.H.P. (dated Jan. 1st, 1905).

IMPERIAL YEOMANRY.

Royal North Devon (Hussars): Surgeon-Lieutenant W. F. L. A. Holcroft is seconded for service under the Colonial Office (dated Jan. 21st, 1905). Lanarkshire (Queen's Own Royal Glasgow): Surgeon-Captain H. Kelly to be Surgeon-Major (dated Feb. 18th, 1905).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Gloucestershire: Surgeon-Lieutenant-Colonel D. S. Davies resigns his commission and is granted the honorary rank of Surgeon-Colonel with permission to wear the prescribed uniform (dated Jan. 4th, 1905).

Rifle: 2nd Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant-Colonel G. Westby (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Liverpool Volunteer Infantry Brigade) is granted the honorary rank of Surgeon-Colonel (dated Feb. 18th, 1905). 1st Roxburgh and Selkirk (The Border): Surgeon-Lieutenant-Colonel J. S. Muir resigns his commission and is granted the honorary rank of Surgeon-Colonel, with permission to to wear the prescribed uniform (dated Feb. 18th, 1905). 4th Middlesex (West London): Surgeon-Major A. Clark (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, 3rd London Volunteer Infantry Brigade) to be Surgeon-Lieutenant-Colonel (dated August 23rd, 1893). 5th (Ardwick) Volunteer Battalion, the Manchester Regiment: Surgeon-Captain S. Nesfield to be Surgeon-Major (dated Feb. 18th, 1905). 1st Sutherland (The Sutherland Highland): Surgeon-Lieutenant J. MacLennan resigns his commission (dated Feb. 18th, 1905).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Edinburgh Company: William Darling to be Lieutenant (dated Feb. 18th, 1905).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS): DISTRIBUTION OF PRIZES.

On Feb. 18th, at the headquarters of the Royal Army Medical Corps (Volunteers), London Companies, Calthorpe-street, W.C., Mrs. Keogh presented the prizes won during the year. Lieutenant-Colonel Valentine Matthews, the commanding officer, said he regretted that the strength of the companies had decreased from 380 in 1900 to 332 in 1904. The efforts made to obtain recruits had been very disappointing but he believed that if the authorities would abrogate the compulsory camp clause for a year or two as an experiment the results would be more satisfactory. In reply to a vote of thanks to Mrs. Keogh, proposed by Colonel J. Cantlie, Surgeon-General A. H. Keogh, the Director-General of the Army Medical Service, said that he had formed a very high opinion of the Volunteer Medical Corps in the Boer war and he knew no reason why the volunteer medical companies should not be as efficient in the field as the regulars of the Royal Army Medical Corps. The duty of the medical corps was not merely to look after the sick and wounded in war but to prevent disease and to maintain the fighting strength of the army in the field. In the event of any future war he would have no hesitation in calling on the Volunteer Medical Corps. He would not send them out as individuals, as in the last war, but as a unit to be employed with the Army Medical Corps, and he was sure that if he called on them they would do their work as well as those of the regular army. The distribution of the prizes was followed by a dance.

DEATHS IN THE SERVICES.

Lieutenant-Colonel Edward Denham Tomlinson, A.M.D. (retired), and late of the York and Lancaster Regiment, on Feb. 17th, at Folkestone, in his sixty-ninth year. He entered the army in 1860 as an assistant surgeon, served in the New Zealand war, and was present at the capture of the redoubt of Katikara, and of the Pahs at Manutahi, Matatawa, Te Anei, and Waikoukou, the action of Pontoko, the attack on Sentry Hill, the ambuscades at Tapuae and Wairau, and the destruction of Pahs and villages in the neighbourhood of Warea. He retired in 1880.

THE ARMY AND PARLIAMENT.

There can be no doubt that army matters will form one of the earliest and most important subjects for the consideration of the present Parliament and there are already indications that such will be the case. First and foremost, Mr. Arnold-Forster's radical and bold army reorganisation scheme has to be put on its trial, and there are a number of other questions connected with the defence of India and the Indian army, recruiting, the colonies, and the newly proposed educational tests for the competitive examination of army candidates which will also surely claim attention. The position of the medical services and the inadequacy and imperfect organisation of the means at our disposal for the relief of the sick and wounded in case of our unhappily having to take part in any big war have also to be faced and settled on some workable basis adapted to modern war methods.

THE INDIAN MEDICAL SERVICE AND CIVIL EMPLOYMENT.

In reply to a question by Mr. Hemphill in the House of Commons last week Mr. Brodrick stated that officers of the Indian Medical Service in civil employ in Burma were placed upon the same footing as officers in other departments in respect of local allowances in December, 1903.

THE WAR IN THE FAR EAST.

The events which have recently been taking place in Manchuria have not so far been favourable to the Russian forces. The attempt to turn the Japanese left ended in failure and the latest news is to the effect that a division of the Japanese force is now in the rear of General Kuropatkin's army and threatening its communications. As having some bearing upon hospital supplies it may be mentioned that a general strike has been declared at all the pharmacies in Moscow. 14 of the largest pharmacies have been compelled to cease operations. Among them is the celebrated Ferrein pharmacy of V. K. Ferrein in the Nikolskaya, the largest dispensing establishment in the world. There are only 50 pharmacies altogether in Moscow, the number being strictly regulated by law.

The committee for procuring assistance for medical men and their families who may suffer from the war, consisting of members elected by delegates from all medical societies in Russia, has decided to organise an "all Russia fund, admitting, however, a certain local autonomy to the various coöperating funds. The *Novosti* says that a central elected "bureau" is to be formed and regular monthly subscriptions

are to be solicited which will not exclude independent gifts; thus the Society of Russian Physicians has subscribed £50 and other similar contributions have been received.

The gold medal founded by the late Sir Gilbert Blane, Bart., to be given biennially has been awarded by the Director-General of the Royal Navy Medical Service and the Presidents of the Royal College of Physicians of London and the Royal College of Surgeons of England, to Staff Surgeon S. T. Reid, R.N., for his journal of H.M.S. *Vestal* for 1901–02 and to Surgeon R. W. G. Stewart, R.N., for his journals of H.M. ships *Latona* and *Thames* for 1903.

Correspondence.

"Audi alteram partem."

MEDICAL TEACHING IN THE METROPOLIS.

To the Editors of THE LANCET.

SIRS,—As senior physician to one of our teaching hospitals in London I feel compelled to say something in answer to the letter of Dr. Harry Campbell in THE LANCET of Feb. 18th on medical teaching in the metropolis. He says that it cannot be said that clinical medicine is well taught in London and that few of our London physicians are experts in the art of imparting the knowledge and skill which he allows they possess. He states that this is mainly owing to the fact that in the election of physicians to teaching hospitals due regard is not had to their teaching capabilities and his remedy is that all who are subsequently found incapable should be dismissed and, further, that certain gentlemen attached to hospitals unconnected with schools should be appointed to assist. This charge of incompetence, which is brought against the large number of 91 physicians and assistant physicians connected with the 12 teaching hospitals, besides medical tutors and registrars, is unsupported by a single statement of fact. He says *few* are capable of teaching. What is Dr. Campbell's definition of few? Is it 10, or 20, or 30 per cent.? Does Dr. Campbell's knowledge of London clinical teaching justify him in saying that 70 per cent., or even one-half of these gentlemen—and these would amount to 50—are incapable of teaching?

Now I am not concerned at present to do more than defend the hospital with which I am connected from its share of this charge. I have no doubt that other teaching hospitals will have an answer ready. But I am quite sure that as long as I have been connected with Guy's Hospital it is few of the physicians who have *not* been good teachers and that the clinical teaching has been, and is, carried out earnestly, thoroughly, and effectively, day after day by all concerned. With regard to the alleged cause I think I can safely say that no assistant physician during the last 40 years has been elected to the staff of Guy's Hospital who has not had experience in teaching and whose capacity to teach has not been taken into consideration as a factor in his election. The experience in teaching has been generally acquired in some probationary appointment requiring re-appointment every one or two years, such as that of demonstrator or registrar. Dr. Campbell's suggestion that we might pick up some worthy persons from the non-teaching hospitals presents this difficulty: How are we to know that they can teach?

I am, Sirs, yours faithfully,

Wimpole-street, W., Feb. 18th, 1905. FREDERICK TAYLOR.

To the Editors of THE LANCET.

SIRS,—Obvious perils beset the path of any writer who attempts to argue from the known to the unknown or who ventures to generalise upon the assumption that his major premiss will meet with universal acceptance; these perils and this assumption are to be found in painful prominence in the letter under the above heading which appeared in THE LANCET of Feb. 18th, p. 458, in which the writer assumes that all will agree that clinical surgery is well taught in the London schools but that the like cannot be said of clinical medicine. He proceeds to deplore the assumed dearth of good clinical teachers of medicine as though all were equally agreed about that point. As one of the clinical teachers of medicine recognised by the University of London I feel that a protest should be made against the sweeping assertions of the writer of the letter. It is possible that he may be mistaken both as to the general agreement of the excellence of surgical teaching and as to the weakness of that of clinical medicine. He surely cannot pretend to be personally acquainted with the teaching of every school. He can only speak with a semblance of authority of the teaching of his own school, and it may be well to leave that school to deal with his criticisms. On the other hand, I venture to think that the suggested superiority of surgical teaching might be submitted to a truer test than that of average attendances—viz., the test of results. The records of the examinations of the Conjoint Board show that a larger percentage of men are rejected in surgery than in medicine, in spite of the suggested excellence of the teaching of surgery and the greater average attendance of students in the surgical wards. That it is more difficult to impart a knowledge of medicine is self-evident since students have to be taught to observe, and though it may be easy to tell them what should be heard with their stethoscopes they must take personal trouble to educate their special senses.

That there are "not a few capable men in London connected with non-teaching hospitals" it would not be wise to question, but surely they have at one time had their opportunity of being chosen to fill vacancies in the ranks. Having been passed over when their merits and their teaching powers were freshly within the recollection of the electing body of their own school it is scarcely to be expected that they should be called back to supersede those who have been continuously engaged in promoting the interests of the medical school.

I am, Sirs, yours faithfully,

Harley-street, W., Feb. 20th, 1905. NESTOR TIRARD.

To the Editors of THE LANCET.

SIRS,—The letter from Dr. Harry Campbell in your last issue deplores the system of election at the medical schools and its suggested influence upon the teaching of medicine. The writer states, and we must take his word for the accuracy of the statement, that "there are not a few capable men in London connected with non-teaching hospitals." The adaptation of sundry remarks by the immortal Captain Cuttle and his friend Jack Bunsby may be of service. "A man's thoughts is like the winds, and nobody can't answer for 'em for certain, any length of time together." "Overhaul the ... (Medical Directory) and when found make a note of." "For why? Which way? If so, why not? Therefore." "The bearings of this observation lays in the application on it."

I am, Sirs, yours faithfully,

Feb. 18th, 1905. A STUDENT OF "BOZ."

To the Editors of THE LANCET.

SIRS,—I have read with much interest Dr. Harry Campbell's letter upon this subject and as it is one of wide-reaching public and professional interest I venture to make a remark upon it and to put forward a practicable suggestion. It is hardly possible to get all the governors of the London teaching hospitals into one way of thinking as to the methods of selecting their physicians and surgeons nor, perhaps, would the staff agree to losing a comrade through his failure to come up to Dr. Campbell's test. Medical teaching might be very much improved, not only in London but elsewhere, if it became compulsory to spend the last two years of the five years' curriculum in centres where there are large numbers of teachers to choose from and if one uniform fee allowed a student to attend any teacher he chose. Suppose all the teachers in London formed themselves into a body and freely admitted anyone possessing such qualifications as are now required for teachers and for clinical teaching all who had a requisite number of beds or out-patients from which to teach. An annual fee of £25 or £30 might be charged to each student and distributed *pro rata* to each teacher, school, or hospital, according to the numbers attending. This would enable men to attend several hospitals at one time, to choose their teachers, and not be compelled as they are at present (on account of the composition fee) to attend such teachers as the hospital board appoints to teach them.

It must be granted that some hospitals and schools have advantages over others and doubtless every one of them has some special advantage which a student may reap, but can it be said that every hospital and school are perfect in every particular? Whatever defect in the teaching there is it is

reflected upon the student, and though he may be unusually well armed at one part his armour has serious weaknesses. Such a scheme would relieve the strain of maintaining a staff for the primary and scientific work and allow the universities and university colleges to fulfil their proper duties to the profession. Dublin, Glasgow, and Edinburgh might be similar centres and work upon similar lines. This project I respectfully submit is feasible, cannot injure anyone, and only requires the support of the General Medical Council to effect the reform. Your space is too valuable to dilate upon other obvious advantages.—I am, Sirs, yours faithfully,

Feb. 18th, 1905. R. C. H.

EFFECTS OF ANÆSTHETICS UPON PLANTS.

To the Editors of THE LANCET.

SIRS,—Besides the effect upon the sensibility of "mimosa pudica" noticed by your correspondent Dr. R. Macdonald and the enhancing of rest to which you refer several other effects of anæsthetics upon vegetable life have now been observed. It may interest Dr. Macdonald to be referred to some of these. The streaming of protoplasm, cell division, and cellular respiration are all affected in the direction of paralysis by solutions or vapours of ether and of chloroform. Elfving and Lauren[1] state that respiration in the higher plants is increased by ether and by chloroform but this is denied by other authorities. Claude Bernard showed that fermentation can be inhibited by chloroform. Again photosynthesis (the manufacture of sugar and starch from CO_2 and H_2O in chlorophyll-containing cells) is stopped by placing plants in an atmosphere which contains quantities of ether not enough to stop respiration. It would seem indeed, generally speaking, that vegetable life is as susceptible as animal life to the peculiar action of anæsthetic drugs but these are not so easily brought to bear upon the vegetable tissues as in the case of animals.

I am, Sirs, yours faithfully,

eb. 20th, 1905. J. BLUMFELD.

THE TREATMENT OF FRACTURES BY EARLY STRAPPING, EARLY MASSAGE, AND EARLY MOVEMENT.

To the Editors of THE LANCET.

SIRS,—Having for the last 20 years treated sprains, fractures, and dislocations upon the system described by Mr. J. Stafford Mellish in THE LANCET of Feb. 11th, p. 350, and having applied such treatment to my own fractured leg some years ago, I am in a position to write with considerable personal knowledge of the results. My own case of Pott's fracture of the leg I brought before the Medical Society of London and it was reported in the *British Medical Journal* of Feb. 15th, 1896. It was also referred to in an article in THE LANCET on Feb. 5th, 1898. A few of my personal experiences may be of interest now. My surgical friends were at first very much opposed to my using plaster strapping, but having applied it myself within half an hour of the accident it entirely prevented swelling of the injured part and gave me great comfort

Throughout the treatment I realised all the advantages which have been claimed for this system and I began to walk 21 days after the accident. It is always advisable to shave and to cleanse carefully the injured limb before applying the plaster. The plaster should be cut in strips from one to two inches wide, long enough to surround the limb and overlap at the ends. It should be just laid on the skin without any attempt to produce pressure. The ordinary adhesive strapping which does not require artificial heat is very effective, but all the rubber plasters are apt to irritate the skin. Oxide of zinc plasters suit some skins but the best kind is one called Eccles' plaster. Gentle massage cannot be commenced too early and Mr. Mellish's suggestion of applying the strapping from above down so as to facilitate this rubbing is much to be commended. The effect of massage in my own case was absolutely delightful.

While early movement is being carried out the bones may be steadied by the hands of the surgeon or by a temporary clamp located to the injured part. The whole treatment by strapping, early movement, and massage not only gives immediate comfort to the patient but also prevents wasting of muscles and enables the patient to get about much earlier than under the old-fashioned plan of fixation for weeks. Moreover, it prevents the occurrence of that stiffness of joint which so often comes before the surgeon after fractures that have been treated by the ordinary plan.

I am, Sirs, yours faithfully,

E. NOBLE SMITH.

Queen Anne-street, London, W., Feb. 19th, 1905.

[1] Botanischer Jahresbericht, 1892, p. 92.

DUODENAL ULCER.

To the Editors of THE LANCET.

SIRS,—With reference to "flushing" in the treatment of perforated duodenal ulcers might I refer Mr. W. Bruce Clarke to the series of nine cases of perforated gastric ulcer, eight of whom recovered, published in THE LANCET of July 16th, 1904, p. 145? Seven of these cases were under my care and two were under the care of Mr. T. Crisp English. Since then three cases of perforated duodenal ulcer, two of which recovered, have been treated by the same method of flushing at St. George's Hospital by Mr. English and myself. I feel very strongly from my experience of this flushing or irrigation method combined with suprapubic incision that it is a most efficient method of dealing with perforated ulcers, whether of the stomach or the duodenum.

I am, Sirs, yours faithfully,

Half Moon-street, Piccadilly, Feb. 19th, 1905. G. R. TURNER.

To the Editors of THE LANCET.

SIRS,—In reference to the questions of Mr. W. Bruce Clarke I desire to say:—

Firstly. The difficulty of diagnosis between the perforation of a duodenal ulcer and the perforation of the appendix is sometimes very great; so great, indeed, as to have misled surgeons of unquestioned aptitude in the recognition of these conditions. In my original paper in THE LANCET I showed that in approximately 40 per cent. of the cases of perforating duodenal ulcer that had been submitted to operation the incision had been made over the appendix. In my own experience no real difficulty has arisen, though one of the patients was sent into hospital with a diagnosis of acute appendicitis. The difficulty can only arise, it seems to me, after the lapse of a few hours; after the time, that is, during which the area of pain, rigidity, and tenderness has ceased to be local. After the first few hours the peritoneum along the outer side of the "hillock" and down the ascending colon becomes infected. It may be seen covered with plastic lymph when all other parts of the peritoneum are unharmed. In this stage a confusion of diagnosis is not improbable, for the localisation of the signs mentioned reproduces the circumstances of a case of appendicitis—the "mimicry," in fact, is complete. In the last stage of all, when the peritoneal infection is universal, the discovery of the point of origin of a general peritonitis is virtually impossible. Mr. Bruce Clarke's question may therefore be answered by the statement that in the early hours after a perforation diagnosis should be easy, after a few hours appendicitis may be mimicked, in the last stage of all an accurate diagnosis is extremely unlikely. Nowadays the cases are seen early and therefore, as Mr. Bruce Clarke says, the difficulty in diagnosis is not likely to arise when the cases are "earlier recognised and more promptly treated."

Secondly. The question of flushing and drainage of the peritoneum is determined entirely by the conditions found. In the first few hours it is not necessary (it is probably harmful) to do either; in the stage of general infection it is my practice to drain freely and, generally, to flush the peritoneum with hot saline solution. The last case in my list (Series 1) was an exemplary instance of the kind of case that would seem to demand irrigation and drainage. The facts that Mr. Bruce Clarke has not, except in the one case mentioned, felt any difficulty in making a correct diagnosis and that he regards the flushing of the peritoneum as unnecessary are both eloquent in proof of the earlier recognition of the cases in his own experience. There are, however, cases, unfortunately still too many, in which the recognition of the disease is tardy; in them difficulties of diagnosis are not unlikely to be encountered and measures necessary for the cleansing of the greatly damaged peritoneum must still be practised. I am, Sirs, yours faithfully.

Leeds, Feb. 20th, 1905. B. G. A. MOYNIHAN.

COFFEE AND SEWAGE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 18th, p. 460, Mr. R. J. Friswell complains of your comment of Feb. 4th on the above as being unfair. In this connexion I should like to point out that, according to Dr. J. W. H. Eyre's examination, each berry acted as a nutritive medium for bacillus coli communis, bacillus enteritidis sporogenes, and sewage streptococci. If the presence of these does not show sewage contamination I should like to know what does. Why is sewage itself dangerous? Because it contains these very organisms and may contain many others more generally recognised as pathogenic. Even were the quantity of sewage small it might be very deleterious because the berries from the way in which they were packed—viz., in bags—acted as a kind of filter bed, freeing the water which passed through them of a large amount both of organic and inorganic filth which became deposited on the surface of the berries. The evidence of the sanitary officials was given on the assumption (uncontradicted) that the coffee during roasting attained a temperature of from 300° to 400° Centigrade, but Mr. Friswell in his letter now states this ought to have been Fahrenheit. Had we understood that 180° C. was the highest temperature we should not have admitted that all organisms were destroyed by roasting, since it is quite conceivable that certain spores may have escaped, not to mention the various cellular toxins. In view of the fact that caffein itself is not destroyed at this temperature I consider it quite an open question whether the products of the various bacteria which infested the berries were rendered harmless.

I am, Sirs, yours faithfully,

R. K. BROWN, M.D. R.U.I.

The Town Hall, Spa-road, S.E., Feb. 20th, 1905.

HIGH BAROMETRIC PRESSURE AND CEREBRAL HÆMORRHAGE.

To the Editors of THE LANCET.

SIRS,—I have only just seen the issue of THE LANCET of Jan. 28th in which Dr. James W. Russell of Birmingham has an article on the Relation between Various Atmospheric Conditions and the Occurrence of Cerebral Hæmorrhage. In this he refers to Dr. R. Hensleigh Walter as having suggested that there is a relation between a high barometric pressure and an attack of cerebral hæmorrhage. Now, so far as I know, I was the first to suggest the influence of a high barometric pressure upon hæmorrhages generally, including, of course, cerebral. This I did in an article which appeared in 1896,[1] entitled "Hæmorrhages: their Relation to Barometric Pressure." I have drawn your attention to the above article as in recent literature the fact that the relation between high barometric pressures and hæmorrhages had been observed and commented on nearly ten years ago has been entirely ignored.

I am, Sirs, yours faithfully,

Edinburgh, Feb. 18th, 1905. THOS. WHITELAW, M.D. Edin.

[1] Brit. Med. Jour., May 30th, 1896.

SANTA CRUZ, TENERIFFE, AS A HEALTH RESORT.

To the Editors of THE LANCET.

SIRS,—I wish to draw attention to the claims of Santa Cruz, Teneriffe, as a health resort. I refer more particularly to the new suburbs above the English church (from 200 to 300 feet above sea level), where there are now a number of good hotels and pleasant gardens amidst salubrious and picturesque surroundings. The average mean temperature of the winter and spring months is about 65° F., relative humidity 65, and rainfall 11·50 inches per annum. There is an abundance of bright sunshine, the nights are warm, and there is a very slight dewfall. There is generally a pleasant breeze from the sea and altogether it may be considered one of the best climates in the world for invalids or people wishing to spend their winters abroad. The electric tramway from Santa Cruz to La Laguna and on to Tacoronte (a rise of nearly 2000 feet) is a great boon to visitors and during the summer Santa Cruz, which is the capital of the Canary Islands, is a most interesting old city and the most lively in the archipelago. If desired I shall be glad to give any further information.—I am, Sirs, yours faithfully,

A. W. W. DOWDING, M.D. Durh.

Santa Cruz, Teneriffe, Feb. 10th, 1905.

HUNTERIAN ORATORS.

To the Editors of THE LANCET.

SIRS,—It is generally agreed that Mr. J. Tweedy's Hunterian Oration marks a new departure in point of originality and your favourable notice of it will be endorsed by all who heard it. Not only did he offer his audience an unhackneyed appreciation of the work and methods of John Hunter but he had the courage to analyse one of the tiresome rhetorical commonplaces copied from one another by indolent orators half a century ago, according to which Hunter is likened to Bacon. The orator showed that Francis Bacon, great as he was, was the last of the mediæval philosophers, while John Hunter was a pioneer entirely on a higher plane, because more careful of the truth than the Lord Chancellor who is supposed to have written the plays of Shakespeare. Orators have in the past been cruelly hampered by the necessity of always speaking about the same man. In their desire to say something new about John Hunter they have too often unconsciously repeated the veriest platitudes. Sometimes the task has been too much for them. In 1841, for instance, Thomas Callaway failed conspicuously in his oration. He could not decipher his own writing and though more wax candles were brought by Clift, his speech was described as a "most miserable failure." John Flint South in 1844 was original at John Hunter's expense. He omitted to mention him in his oration. Lawrence lost his temper and made a famous attack on the general practitioners who had crowded to hear him (1846). Asked to apologize, he indulged in ferocious repartee and called his audience geese. Luke's oration in 1852 was very poor and Bransby Cooper's "a great failure." The oration of Honoratus Leigh Thomas is described as "a most modest production" in 1827, while Sir Anthony Carlisle simply delivered a lecture on oysters. Hence, his nickname in the pages of THE LANCET[1] of the time, "Sir Anthony Oyster." Similar in kind though far different in degree was Joseph Henry Green's famous oration on "Mental Dynamics," while in recent years Mr. Macnamara lectured very ably on anthropology and but little on John Hunter. Mr. Tweedy's oration is in some sort a return to the typical exercises in which John Hunter has been kept in view as a text, new and appropriate lessons being drawn from his work and his character. As such it will rank among the classics of the College. I am, Sirs, yours faithfully,

Feb. 20th, 1905. P. V.

[1] See THE LANCET, Feb. 18th, 1826: "Hunterian Oration read by Sir Anthony Oyster ..... His speech was a fine sample, on the whole, of rhetoric, which the learn'd call *elgmatode*."

ADVANCED PLUMBING.

(FROM A CORRESPONDENT.)

AN examination of the sanitary fittings and plumbers' work now nearing completion at the new wing of St. Mary's Hospital, Paddington, is encouraging, indicating as it does that the hitherto slow march of the plumber is being brought into time with the quick-step of modern surgery. At St. Mary's Hospital the greatest attention has been given to every detail and the result reveals a unity of purpose in conception and construction which reflects the greatest credit on all concerned. A special feature throughout all the internal fittings is simplicity in form, there being a complete absence of any attempt at ornamentation. Sharp angles are avoided, all necessary mouldings or projections being rounded or hollowed, thus avoiding corners in which dirt and germs could accumulate. Each part of the several fittings is accessible for cleansing, while all unavoidable jointings are flush. There are several deviations from existing work of the kind that are well worth special attention.

Closets.—The closets are of white enamelled fire clay, on the cantilever principle, carefully formed with roomy shallow pans to avoid fouling, and are fitted with a specially constructed flushing rim that insures thorough cleansing.

These closets are built into the wall clear of the ground and the seat is at a lower level than usual. The low level is considered to have certain physiological advantages and it certainly offers a more natural position than the ordinary 17½-inch high seat. The safe beneath, in place of lead or the usual more or less absorbent tile, is a heavy cast-iron tray, coated with porcelain enamel and provided with a grating and waste pipe. The lead service and the anti-syphonage pipes to the closet are connected with adjustable gun-metal fittings. The flushing supply cisterns are of cast-iron, somewhat tapered at the bottom, which form, together with the use of a special valve, renders them as nearly as possible silent in action. The cisterns are also coated with white porcelain enamel, while the lever chains are of a non-corrosive metal with celluloid handles.

Commode cupboards.—One very important provision is that of the white porcelain cupboards for the storage of bedpans and urine bottles containing samples awaiting inspection. These are supplied with a novel system of ventilation, both inlet and exhaust. The fresh-air inlet, which is carried through the external wall, is fitted with a fine wire gauze moveable panel or fly trap. Thorough ventilation takes place each time the adjacent bedpan sink is used, some 200 or 300 cubic feet of air being drawn through the cupboards automatically. This is accomplished thus: the water-supply to the flushing cistern of the sink is utilised to operate a ventilating fan in its passage to charge the cistern. By this means any extra waste of water is avoided. Where these cupboards are not in the immediate vicinity of the bedpan sinks, shafts have been carried up from them fitted with copper exhaust ventilators which are kept in constant action by means of a small Bunsen burner fixed in the shaft.

Scalding sinks.—The bedpan sinks are of one piece of enamelled porcelain with ascending jets for scalding the pans and a special arrangement for urine bottles. The jets are controlled by self-closing non-concussive gun-metal valves. The basins or hoppers of these sinks are flushed by three-gallon cisterns similar to those used for the water closets. Porcelain corrugated slabs are supplied in connexion with these sinks, provided with hose and hand sprays, for scouring mackintosh sheets.

Surgical sinks.—The surgical sinks have naturally received most careful attention. The adoption of a toe action combined hot and cold valve would seem to be a considerable improvement on the pedal valves previously in use, as the slightest tap of the toe instantly controls both the quantity and the temperature of the flow, while there is no necessity for maintaining a regular pressure as with the pedal; necessarily, by doing away with the pedal, the fitting is rendered less complicated. The sinks themselves are of white porcelain with rolled edges and fitted with recessed accessible wastes, which last are removeable for sterilising. The sinks are in pairs and between each is fixed a polished gun-metal wringer for use when cleansing sponges, &c. The hot and cold supply is delivered through overhead swing brackets having a spray and douche attached. In connexion with these sinks are porcelain draining trays for cleaning instruments. Glass shelves for the disinfectant bottles are also provided which last have vulcanite valve stoppers.

Lavatories.—Adjoining the operating room is the surgeons' room in which are three large plain porcelain lavatories, each one being fitted in all respects like the surgical sinks, only the wastes are governed by a slide arrangement and can be opened or closed by a touch of the elbow, the wringers of course excepted. The whole of the metal used is non-corrosive. The baths, sinks, and other plumbers' work throughout the building are all of a proportionately high standard. The nurses' sinks are fitted with specially porcelain-enamelled Berkefeld filters. Water storage is provided for two days' supply and a small auxiliary electric motor has been fixed in order to insure their being charged in the event of the pressure failing in the water company's main.

Great credit is due to the architect, Sir William Emerson, and the hospital staff for the foresight and care shown in the details, as also to Messrs. Davis and Bennett, the contractors who have carried out the work. It may be added that only registered plumbers have been employed.

TORBAY HOSPITAL, TORQUAY.—£1800 have been received by the governors of the Torbay Hospital, Torquay, in response to their appeal for £2000 for the purpose of providing a children's ward and a new operating theatre.

SMALL-POX AND SLUMS AT PITTSBURG AND ALLEGHENY.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

IN visiting what I was informed were considered to be the slums of Boston I only found one small group of houses which were inhabited by organ-grinders and which might be qualified as really bad. At Pittsburg and Allegheny there was no difficulty in discovering slums well worthy of comparison with the lowest quarters of large English industrial centres. The towns which have developed very rapidly in consequence of some newly created industry do not seem to be administered so well as the more ancient and historic towns and cities where the growth in size and trade has been more slow and more deliberate. Then there is one marked difference. In the older towns or cities the great difficulty is to find land to build upon; in the newer towns the difficulty is to find land that has been built upon. At Pittsburg there are vast stretches of elevated land outside the city where a large district of villadom is fast springing into existence. The result is that whole streets of more closely packed houses built near the centre of the city, which served as residences for the well-to-do before electric trams came into existence, are now handed over to the poorer sections of the community. These in some instances have degenerated into slums. Of course, the land in the business centre of the city has become extremely valuable and there the houses consist of offices with but very few inhabitants. Indeed, to make still more use of the land "skyscrapers" have been built, one of these being no less than 28 storeys high. It is to be hoped that measures will be taken here as at Boston to limit this style of building, for though a "skyscraper" or two may not do much harm, except it be by reason of its ugliness, a large number would so shut out the air and light from the streets as to constitute a considerable danger to the public health. What the town may become may be inferred by the bargain made by one of the churches. The length of this church ran parallel with the street and thus it occupied a good deal of frontage. The church thereupon sold half this frontage to a "skyscraper" building company. Besides paying a considerable sum of money, this company pulled down the church at its own expense and then rebuilt it the other way round—namely, at right angles with the street instead of parallel. Thus, only the narrow end of the church faces the street, and on the frontage space vacated a huge "skyscraper," containing many hundred offices and business premises, towers above the church and its steeple. Instead of driving the money-changers out of the temple the land on which the temple stood has been sold to the money-changers.

It has already been explained that in spite of the immense wealth accumulated at Pittsburg there is no proper water-supply and typhoid fever prevails in an endemic condition which occasionally bursts out into an epidemic.[1] An administration which is content to serve out sewage-contaminated water to the entire city is not likely to bestow particular care on the housing of the poor or the disposal of its sewage. There is no sewage-disposal scheme before the municipal authorities that is in the least likely to save the city. A plan for filtering the sewage-contaminated water now drunk is before the authorities. The cost of the filters is to be met by introducing meters and making a charge in proportion to the quantity consumed, a method which will not encourage poor people to take baths. But there are legal difficulties in the way of this scheme that could well supply pretexts for indefinite postponement. Yet there have been many warnings as to the general insanitary condition of Pittsburg. As soon as the temperature rises to about 80° F. there is an abnormal prevalence of infantile diarrhœa. The sanitary department does a good deal of work in endeavouring to cope with existing evils. On the receipt of a message from a medical practitioner municipal inspectors examine the plumbing, the drains, and the water-supply of any house which is considered to be in an insalubrious condition. It often happens that the inhabitants are found to be drinking contaminated water from a private well and they are then given the contaminated public water-supply by way of

[1] See Typhoid Fever and the Water-supply at Washington, Pittsburg, and Allegheny, THE LANCET, Nov. 19th, 1904, p. 1451.

change. When there is a case of infectious disease in a house the authorities affix a "plague card" on the door and prevent any unnecessary visiting. If it is a case of small-pox the watch kept is more strict. The isolation enforced lasts three weeks.

It has been noted that foreigners do not suffer from small-pox because they have all been vaccinated on board ship or just before crossing the Atlantic. But their children, born in America and under the school age, are very liable to this disease. At school they are vaccinated and then the danger ceases. After a death from small-pox or the removal of the patient to the hospital the method of isolation imposed on those who have been in attendance or have lived in the house is modified. After thorough disinfection those who have been vaccinated successfully and who are now revaccinated are allowed to go out and their movements are not restricted though they are watched. For 20 years Pittsburg had been almost free from small-pox, then an epidemic began in 1898, assumed a severe type in 1902, and the last fresh case was notified in June, 1904. Vaccination was very generally neglected except by foreigners and school children as explained above. Before any child can be admitted to school a fully qualified practitioner must certify that he or she has been successfully vaccinated; thus above the age of six years all children are vaccinated. The sanitary authorities as a result of their inquiries came to the conclusion that previously to the outbreak of small-pox only about half the population of the city had been properly vaccinated. Thereupon visits were paid and persons known not to be vaccinated were constantly disturbed by the authorities and by bringing various forms of pressure to bear the majority ultimately consented to be vaccinated. Nevertheless, it is estimated that there are still some 70,000 persons at Pittsburg who have not been vaccinated out of nearly half a million people. Though there had been a good many cases of small-pox previously only three deaths had occurred from that disease since it first appeared in 1898 up to the commencement of 1903. By that time a much more severe type prevailed and altogether there have been some 450 deaths from small-pox. Fortunately an isolation hospital had been built in 1876 and there is now a newer and better fever hospital, consisting of two separate pavilions—one for small-pox and the other for diphtheria. From this municipal hospital diphtheritic antitoxin is gratuitously distributed and at the bacteriological laboratory sputum and other material in regard to diphtheria, typhoid fever, &c., are examined for the medical profession. The authorities also notify schools whenever they ascertain that there is a case of infectious disease in the home of any of the pupils. This precaution is taken in regard to measles as well as for scarlet fever, diphtheria, &c. The children are not only prevented from going to school but they are not allowed to frequent libraries or other places of public resort.

In order to cope with infectious disease and to prevent nuisances the staff of the sanitary department is certainly undermanned. There are but two inspectors, for instance, for the tenement houses. The boarding houses are notoriously overcrowded. There are not, however, many coloured people at Pittsburg. The negroes do not number more than about 5 per cent. of the total population but their death-rate is nearly twice as high as that of the white people. The white population should live in good sanitary surroundings. There is no poverty such as we see in England. Some artisans earn wages that many of the middle classes of England would envy. Not a few workmen's wages amount to £300 a year and some of the more skilful steel plate rollers and workers and foremen, especially if they have a royalty on the output, make from £2 10*s.* to £4 per day. One well known artisan by the royalty system made £10 per day and retired with a fortune. Of course it must be borne in mind that the cost of living is much higher, though the raw materials are not so much more expensive. A family that will do its own cooking and domestic service can live nearly as cheaply as in Europe. Then, from the sanitary point of view, it is not the earnings of the exceptionally well-paid artisans that govern the situation. On the contrary, it is the worst paid who are the more important and interesting. The slums of Pittsburg are not inhabited by the highly skilled American artisan. He very often resides in a villa built in the outskirts of the town. The slums are peopled by the newly arrived foreign labourers who are ready to do the low class of work which the American will not touch. For such work the foreign labourers receive much higher wages than they would obtain in their own country; while their womenfolk generally know better than the Americans how to cook and how to economise their food and fuel. For instance, an American will not work at the building of a sewer for less than 12*s.* a day; but there are Italian labourers and others who will do the same work for 6*s.* a day and save money on this wage. Some of these men are so anxious to economise enough to get back to their own country that they will even seek to save in rent by living in what are called "double-shift dormitories." Here the beds are occupied by a set of day tenants who work at night and by another set of night tenants who work in the day time. This I found to be the case both at Allegheny and at Pittsburg. The one object especially with the Italians, the Hungarians, and the Austrian Slavs is to save their money and to return home, for in America, and especially in Pennsylvania, there is no knowledge of the joys of life, there is no sense of enjoyment, no capacity for pleasure, as these people understand it. So they will live on dry bread and a little sausage, for this they can carry with them and thus avoid the extravagant charges and the bad cooking of American restaurants and eating houses.

The homes of some of these people which I visited both at Pittsburg and at Allegheny were quite as deplorable in appearance and as unfit for human habitation as those which may be seen in the slums of old European towns. At Pittsburg there were the same irregularity of structure, the same narrow passages between dilapidated houses, and the same malodorous inner yards devoid of pavement and of sufficient light and air, as may be seen in the older countries. The people were huddled together. Some kept small shops and slept on shelves in the shops over the goods which they had for sale. The beds were often placed in the centre of the building away from the windows and the possibilities of efficient ventilation. This was especially the case in the Italian quarter of Pittsburg.

The better class of workmen, notably the Germans as well as the Americans, join building societies and through this agency succeed in time in purchasing their own homes. They are also anxious to give their children the full benefit of public school education. But the Hungarians and the Slavs are more desirous to work their children, so that they also may earn a little and thus hasten the happy day when enough money will have been saved to return to Europe. However, there has been a beneficent interference on the part of legislation. The law compels all children to go to school when they are from six to seven years of age and the Factory Law forbids the employment of children under 13 years of age. So now the Slav children go to Croatian schools that have recently been built by the Roman Catholics so as to prevent their receiving an American education while enabling them to comply with the American law. At Allegheny there is a lady inspector of the poor quarters who very courteously gave me information concerning the way in which some of the worst paid workers live. For instance, on one occasion it was found that ten different families were lodging together in a house that consisted of only seven rooms. There were often four beds in a room and two men sleeping in one bed. Cellars are yet to be found under dwellings that are packed with living poultry and pigs. These are done away with as soon as they are discovered. On the whole, the agents who represent the owners of the houses are ready to comply with the demands made by the sanitary authorities and to carry out the improvements suggested. Some of the worst houses were even pulled down and rebuilt and a very sharp watch is kept to prevent the accumulation of rags, refuse, and dirt in unoccupied cellars. The rent generally charged is from £1 8*s.* to £1 12*s.* per month for a tenement of two rooms. Many of the houses thus let in tenements at Allegheny are only three storeys high and the stairs are outside the walls so they do not serve to convey foul air from one tenement to the other tenements. Accompanied by one of the sanitary inspectors I visited some of the poorer quarters of Allegheny and found a single room near a sweetstuff shop tenanted by no less than eight Greek men. Then in the basement there were 16 men. In a tenement of two rooms I found ten people and they paid between them £1 5*s.* per month. Here a tame rabbit was playing about and there was a very filthy closet. As these people earn at least 4*s.* a day when in work they could surely pay a higher rent.

The inspector assured me that the unskilled workers could earn 6s. a day while the skilled mechanics obtained from 12s. to 14s. a day. Even making some allowance for the tendency to exaggerate the amount of wages paid or to omit the number of days when there is no work whatsoever to be done, the working class can afford a sufficient rent to live in healthy houses. In England the difficulty is that it is often literally impossible for the unskilled to earn enough to pay a rent that will cover the cost of building proper dwellings. With labourers' wages at 18s. and 20s. a week how can they pay enough rent to house themselves and their families? But at 6s. a day or 36s. a week the position would be very different. In England it is often so obvious the tenants cannot help overcrowding that neither sanitary inspector nor magistrate has the heart to enforce the law. In America the same excuse does not hold good, at least, to the same extent. Much more space is still vacant to build upon and there is more money to pay for the building.

On the other hand, the importance of these problems is not so keenly appreciated—in any case not at Pittsburg or Allegheny. The energy of the sanitary authorities is devoted rather to combating outbreaks of infectious disease than to attempting to remove the predisposing causes. Thus, at Allegheny a considerable amount of money is spent in distributing gratuitously to rich and poor alike anti-diphtheritic toxin. This item alone costs £500 a year out of the public funds. The bacteriological laboratory was established in 1896 and received during the first year of its existence 420 specimens for examination. The fact that in 1903–04 the number of specimens sent amounted to 1004 shows the growing appreciation and usefulness of this institution. If by the examination of the sputum or through any other agency it is found that there are several cases of tuberculosis in a building the sanitary authority sends its staff to disinfect the premises. These are all good points but nevertheless the sanitary department is not what might be expected for a town of such importance and where so much wealth exists. A mere glance at the building occupied by the Bureau of Health shows that both the citizens and the city corporation are without any real appreciation of the importance of the sanitary services. This bureau consists of a miserable little red brick building with the upper part let to some tenant, while the public services below are cramped for want of space. The bacteriological laboratory, for instance, is only separated by a door from the offices frequented by inspectors who visit all the neighbouring fever dens. Yet this bureau stands in the middle of vacant ground where there is plenty of room to build proper municipal offices and laboratories. Not only does the vacant ground remain unutilised but there is no scavenging done. Against the very walls of the sanitary department and in the surrounding vacant space there is an unseemly and dangerous accumulation of rags, old stockings, old boots, waste paper, broken pots and pans, fragments of food, egg shells, rotten fruit, underclothing soiled with fæcal matter, mud, and urine. Such was the sort of refuse which I found had been dumped down against the very walls of the bureau where the municipal officers are expected to watch over the health of the city of Allegheny. Also I noted that in front of all this garbage, which the city scavengers are allowed to neglect and do not trouble themselves to remove, is placed a rough wooden bench where persons who have business at the bureau can sit in the open and wait and breathe the dust blown upon them from the accumulation of refuse that is spread out behind them. All this is in the very heart of the city. Facing the bureau is the principal square where the town-hall and the post-office stand and these, at least, are buildings that have some slight architectural pretensions. Behind the bureau are a few streets where I was surprised to find an extraordinary number of dead rats lying about in the gutters or on the causeway. Then but a few steps beyond is the public park, with its trees, its flowers, its band-stand, and its loiterers who go there to breathe purer air and to rest. Certainly such parks are most necessary as breathing spaces in large towns but it is also necessary to keep the air in the street as pure as possible. This can only be done by careful drainage and prompt energetic scavenging.

VACCINATION GRANT.—Mr. Philip E. Hill has been awarded for the fourteenth time in succession the Government grant for efficient vaccination in the Crickhowell district of the Crickhowell union.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Teaching of Hygiene and Temperance.

AT the last meeting of the Birmingham education committee the report of the subcommittee upon the circular from Sir William H. Broadbent, in which he urged the importance of the compulsory teaching of hygiene in public elementary schools, was considered. The committee was of opinion that, much as it would like to fall in with Sir William Broadbent's suggestion, it was inadvisable to add to the number of subjects already taught in the schools. It drew attention to the fact that in the teaching of the subjects already in the curriculum considerable time was spent in inculcating the principles of hygiene; that it had lately appointed two peripatetic science teachers who were interested in hygiene; and that the Band of Hope Union representatives were allowed to visit the schools. At the University a short course of lectures on ambulance work and hygiene is in process of being delivered by certain members of the staff. Intended primarily for students of mining it has by request been thrown open to all members of the University. The Worcester education committee has appointed Miss Anstey of the Halesowen Physical Training College to give a course of instruction to the female elementary school teachers in physical culture. It was no doubt also an interest in hygiene and a belief in its importance which prompted the West Bromwich Trades Council to write to the West Bromwich education committee urging the advisability of a medical examination of all the children attending the elementary schools.

The Licensing Sessions.

On the first day of the above sessions a deputation waited upon the magistrates and presented the "citizens' memorial," in which, while deploring the increase of drunkenness, the signatories noted with satisfaction the increase in the number of cases in which the responsibility for permitting drunkenness on licensed premises had been brought home to the licensees. They were of opinion that the number of licensed premises was excessive and that many of them were structurally deficient and unsuitable. They wished to express the hope that the magistrates would not sanction the removal of valueless licences from congested areas to uncontaminated districts or grant occasional drink licences to council schools. The deputation was given a very cordial reception and in reply the chairman said that he did not think there had been any increase in drunkenness, that he wished to see not only fewer public-houses but better ones, and that the magistrates attached much importance to the maintenance of the friendly relations already existing between them and the brewers. He further stated that it was the intention of the magistrates to give notice that they wished to put an end to the licences of 36 houses, 21 of which were in the Floodgate-street area. 14 of the houses were fully licensed houses, 20 were beerhouses, and two had beer and wine licences. The number of premises licensed for the sale of intoxicants was at the beginning of the sessions 2103 as against 2163 last year. This works out at one licensed house for every 258 inhabitants in the city. In addition to the sale at these houses a very considerable amount of "beer-hawking" takes place; one brewer stated at the sessions that the company in which he was interested sold to more than 15,000 separate families.

Birmingham and Wye Compensation Water.

At the annual meeting of the board of conservators, Wye Fishery District, the proposal of the Birmingham Corporation to reduce the Wye compensation water by 7,000,000 gallons a day was considered and in view of the unanimous opposition to the proposal by the various local councils it was resolved that the Birmingham corporation should be requested to withdraw from its Bill the portion relating to the reduction of the compensation water. To this the Birmingham authorities have agreed.

Asylum News.

At a special meeting of the lunatic asylums committee held a short time ago the question of the provision of separate accommodation for private patients in the city asylums was considered. The committee hopes that on the opening of Hollymoor Asylum it will be possible to place two separate wards at the disposal of the private patient

class and it is not unlikely that some such accommodation will also be available at the smaller establishments of "The Leveretts" and "Glenthorne." Representatives of the asylum authorities in the boroughs of Birmingham and Leicester and the counties of Warwick, Worcester, Stafford, Derby, Nottingham, Gloucester, and Leicester met on Friday last at the council house, Birmingham, to consider the ways and means of providing accommodation for juvenile idiots and imbeciles certified under the Lunacy Acts and at present resident in county and borough asylums. It was felt that the present system of detaining idiot and imbecile children in the wards of public asylums was bad in that it had a depressing effect upon adults suffering from curable mental disease and also prevented the proper training and education of those children capable of receiving such. After a long discussion a resolution was passed expressing approval of the principle of separating juvenile idiots and imbeciles from the adults in asylums and undertaking to recommend the respective authorities to adopt some combined scheme, with the object of having one joint institution for the Midlands in order that a saving might be effected in expenditure. A subcommittee was appointed to formulate a scheme in accordance with the resolution.

The Unemployed.

The question of the unemployed is demanding more and more the attention of the public bodies and a conference is shortly to be held between the city council and the various boards of guardians to consider some scheme of providing work for persons requiring relief, both as a temporary employment for respectable men and as a test for doubtful cases. Mr. Fels of Philadelphia has offered to lend land to the guardians for the purpose of forming a labour colony, on the understanding that should it prove successful the guardians will purchase the land at the price given for it. The advantage of such a scheme is that work will be found for unskilled labourers and that it will not result in the displacement of other labour. The general feeling seems to be in favour of the acceptance of Mr. Fels's offer. The success of the scheme is believed to depend upon the labourers being induced to stay long enough on the land to become efficient cultivators. No doubt some conclusion will be arrived at as a result of the conference, for it is felt that something must be done without delay to check the steady increase of expenditure year after year for Poor-law purposes.

Health of Birmingham.

The death-rate for the week ending Feb. 4th was 17·1, the zymotic death-rate for the same period being 1·5. The increased mortality was due to measles, diphtheria, pulmonary tuberculosis, and diseases of the respiratory organs. For the week ending Feb. 11th the death-rate and zymotic death-rate were 16·2 and 1·2 per 1000 respectively. A pavilion at Little Bromwich Hospital has been reserved for cases of diphtheria and now contains 16 patients. Dr. A. Bostock Hill's report upon the health of Castle Bromwich rural district for the year 1904 states that there has not been a single death registered from pulmonary tuberculosis.

Feb. 21st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Fatal Case of Plague in the Mersey: Prosecution of the Master of the "Crewe Hall."

THE master of the s.s. *Crewe Hall* was summoned at the Liverpool police court on Feb. 15th before Mr. W. J. Stewart, the stipendiary magistrate, charged with having contravened Section 23 of the Public Health Act, 1896, by neglecting to answer truly questions put to him by a Customs officer as to the health of all on board during the voyage of the vessel. Mr. Cripps, the prosecuting solicitor, said that the officer boarded the vessel and asked the usual question of the master as to the state of health of all on board, who, in reply, said "All is well." The vessel then docked and afterwards a dying lascar was found on board. From the log it appeared that the man had been ill for some days in his bunk and that his temperature varied between 105° and 101° F., so that he must have been seriously ill. The defendant's excuse was that he thought the man was suffering from a cold, but in any case the answer that all was well was certainly wrong and he ought to have told the port sanitary authority that he had a man with a high temperature lying ill in his bunk. The defence was that the master had no suspicion that the lascar was suffering from an infectious disease. Mr. Stewart interposed by saying that he was not prepared to say that there was no responsibility thrown on the captain or that he could get rid of it by saying that the illness was trivial. That would leave it entirely at the discretion of the master to disclose it or not. The position of the medical officer was this: "I do not care what the illness is, or what you thought it was; tell me of it and I will say whether it is safe for the Port of Liverpool to allow you to land." The captain very unwisely took upon himself to state that there was no illness on board his ship; there were facts in his mind which he ought to have disclosed and which were certainly material. The stipendiary came to the conclusion that there had not been a deliberate suppression of facts in order that the vessel might get into dock to discharge passengers and cargo without any trouble; but it was important that the master of a ship should not take the responsibility of being the judge himself. The defendant was fined £10 and costs. Dr. W. Hanna, the assistant port medical officer, in his evidence stated that the lascar died from plague pneumonia, the presence of plague bacilli having been ascertained (on post-mortem examination) microscopically and bacteriologically, as stated in THE LANCET of Feb. 18th, p. 444.

The Housing Problem in Liverpool.

Colonel Slacke, R.E., conducted an inquiry on Jan. 26th on behalf of the Local Government Board in reference to an application by the Liverpool corporation to borrow £35,000 for the purchase and demolition of insanitary property under the powers of the Liverpool Sanitary Amendment Act, 1864. Mr. Cripps, the assistant town clerk, in stating the case, said that under that Act it was the duty of the medical officer of health to report to the council on any houses in the city which he considered to be unfit for habitation. Up to the present the council had always ordered the houses to be demolished and under that Act it had already spent £400,000 in purchasing property for demolition. Between 7000 and 8000 houses had been demolished and there were still left to be dealt with 8000 or 9000 dwellings of a similar type. The corporation had given a pledge to rehouse 50 per cent. of the people dispossessed, and since 1899 some 4313 persons had been provided for, leaving 158 still to be dealt with. In order that the inspector might arrive at an opinion as to whether that pledge was to be continued, increased, or diminished he mentioned that a return of the head constable showed that the number of vacant houses with a rental of 5*s.* per week and under was 1143 and of £20 a year and under 3150, a total of 4293. Since 1901 the corporation had demolished about 1500 houses. The reason for the large number of vacant houses in the centre of the city was because the corporation had perfected its electric tramway system and there had been a large amount of building on the outskirts of the city. Houses of all classes were being erected at the rate of 2000 a year. The inspector observed that he had been very much interested in hearing what the corporation was doing. Knowing that it had done more than had been undertaken by any other municipality that he knew of and had dealt satisfactorily with this great problem, he intended to make himself thoroughly acquainted with the nature of the accommodation which it was providing for the people. Colonel Slacke subsequently visited several of the demolition areas and some of the corporation dwellings.

Treatment of Epileptics and Imbeciles in the Liverpool and West Derby Unions.

At a meeting of the West Derby guardians the clerk presented a memorandum of agreement entered into between the representatives of the Liverpool and West Derby guardians with regard to the treatment of imbeciles and epileptics in the two unions. By this agreement the epileptics are to be dealt with by the Liverpool select vestry to the extent of 250 cases and the imbeciles to the same number will be treated by the West Derby union, the effect of this arrangement being that each union will not now be compelled to provide separate accommodation for each class of patients.

Liverpool Hospitals and Corporate Help.

At the annual meeting of the supporters of the Royal Southern Hospital held on Feb. 13th in the town-hall, the treasurer reported that there was a balance due to the bank of £6387, which was an increased deficit

for the year of £1100. Need was expressed for a new out-patient department and the Lord Mayor, who presided at the meeting, advised the committee to appoint a deputation to wait upon the finance committee of the city council with the object of securing financial assistance for the hospital.—At the annual meeting of the subscribers to the Cancer and Skin Hospital, held on the same day, an urgent appeal was made for increased funds and the opinion was expressed that in view of the large number of patients received from outlying districts it would be most acceptable if some of the district councils or other local bodies would arrange to vote an annual grant in aid of the funds of the hospital.

Feb. 22nd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Barry Health Report.

THE annual report of the medical officer of health of Barry is of interest because the town is of recent growth and has been built up under the supervision of a sanitary authority the members of which have endeavoured to insist upon modern requirements being complied with. The population of the town—if town it could then be called—in 1881 was 494, ten years later it was 13,278, and in 1901 it was 27,030. The vast majority of the houses are of the type usually occupied by artisans; they are built in rows and are let at weekly rentals varying from 4*s.* to 10*s.* Each house has a separate drain and a secondary means of access at the rear. Barry has been provided since 1900 with a destructor capable of destroying 30 tons of refuse daily, though at present only about half this quantity is dealt with. There are no private slaughter-houses but in the public abattoir over 10,000 animals were slaughtered during 1904 and no seizures of meat unfit for human consumption were made. The hospital, which was erected for the isolation of cases of infectious disease other than small-pox, has been held in readiness for patients suffering from that disease and has never been put to its proper use, but the medical officer of health (Mr. George Neale) states that the district council has under consideration the erection of a small-pox hospital. The death-rate from all causes in Barry during 1904 was 11·4 per 1000. In the previous ten years the average death-rate was 14·2 per 1000. In calculating these rates no account has been taken of persons resident in Barry who died in public institutions outside the district such as the county asylum, the Cardiff Infirmary, or the workhouse. Mr. Neale draws attention to the large number of complaints regarding the want of systematic cleaning and painting of the forecastles in vessels arriving at Barry, no less than 431 of the 2966 vessels inspected during 1904 having to be dealt with by the port sanitary inspectors. There appears, he says, to be an increasing disposition amongst many of the mixed crews that now man so many Briti-h vessels not to do more than the most superficial work as regards cleaning and painting their berths. Samples of drinking water collected on board 20 vessels were examined during the year at the Cardiff and county public health laboratory and only two were reported to be good. Five were fairly satisfactory, 12 were unsatisfactory, and one was bad.

Somerset and Bath Lunatic Asylum at Wells.

There were 45 applications for the position of medical superintendent to the Somerset and Bath Lunatic Asylum at Wells, rendered vacant through the death of Dr. C. F. Laing who was recently drowned at sea and who had held the superintendency for nearly four years. The joint committee on Feb. 17th elected Mr. George S. Pope, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., who has been for the past seven years superintendent of the Middlesbrough Borough Asylum at Cleveland. The salary attached to the appointment is £600 per annum, with furnished house and other emoluments.

Cookery in Elementary Schools.

The Somerset county education committee has instructed a subcommittee to prepare a scheme for the provision of suitable instruction in cookery and the hygiene of food in the upper standards of the public elementary schools in the county.

Death of Mr. Horace Vavasour Sandford, L.R.C.P. Lond.

Mr. H. V. Sandford, who died on Feb. 5th at the age of 78 years, was one of the first medical officers of health to be appointed to a combined sanitary district, having been elected medical officer of health of the city of Hereford and for several urban and rural districts in 1874. Owing to failing health he resigned all his appointments in 1899. As a pioneer he carried out much useful public health work and his series of annual reports, which were printed from the first, contain a great deal of valuable statistical information.

Pontypool Hospital.

The first year of the Pontypool Hospital appears to have been a very satisfactory one. The 19 beds were occupied by 148 patients and the cost per bed was £61 4*s.* As might be expected in a colliery district such as that surrounding Pontypool, operative treatment was necessary in nearly one half of the cases admitted. The income for the year amounted to £1595 and the expenditure was £1211.

Newport and Monmouthshire Hospital.

The additional expenditure entailed in the administration of the new hospital buildings at Newport (Mon.) has resulted in the presentation of a less favourable balance-sheet than was the rule in former years. The expenditure during 1904 was £5218 and the year's working resulted in a balance on the wrong side of £232, making a total adverse balance of £560. Towards the income of the institution the workmen of the town and neighbourhood subscribed the large sum of £1600, or £123 more than in 1903. The in-patients numbered 960 and the average stay in hospital of each patient was 29 days, so that those who are responsible for the management of the hospital cannot be accused of extravagance. There were also treated during the year 3483 out-patients and 1231 casualty patients.

Royal Devon and Exeter Hospital.

The 168th report of this institution, which has just been issued, states that 1420 in-patients were admitted during 1904, as compared with 1317 in 1903. The out-patients numbered 5568, an increase of 598 over the figures for the previous year. The financial statement shows that the total receipts for the year amounted to £8448, the expenditure being £9696. During the year Mrs. Nosworthy of Dawlish gave £1000 to reconstruct and to furnish the operating theatre in accordance with modern requirements. Last April a collector was appointed to solicit donations for the hospital and by his exertions the sum of £449 has been raised.

Feb. 21st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS)

The Annual Dinner of the Royal Medical Society, Edinburgh.

THIS dinner, which is an annual gathering of considerable medical interest, was held on Feb. 14th. The invitations to guests are issued by the presidents of the society, of whom there are four. The senior president occupies the chair while the other three act as croupiers. The presidents are all young graduates who, as students, have been active members of the society. The special interest of these dinners depends, however, on the fact that there is always a "guest of the evening" selected because of his eminent position in the domain of medicine. The guest this year was Professor Ronald Ross, C.B., F.R.S. After the usual loyal and patriotic toasts the chairman, Dr. H. N. Fletcher, proposed the toast of the evening. He sketched the great work which Professor Ross had done in connecting malaria with the mosquito and the skill and persistence which he had displayed in his investigations. Professor Ross made a long and interesting speech in reply. He referred to the number of young men at present engaged in the study of tropical diseases and to the admirable work that they were doing. In connexion with malaria he spoke warmly and earnestly of the great difficulty in getting the authorities in this country or in the colonies to take the measures necessary for improving local hygienic conditions. He was of opinion that we should think less and act more, and referred approvingly to the prompt action of the Americans in Havana when it was shown that yellow fever was communicated by mosquitoes, the result of

their action being that yellow fever was banished forthwith. He also referred to the action of the French in Ismailia, action which had almost banished malaria from that town. The dinner was altogether most successful and the presidents are to be congratulated. Among other guests present were the Lord Provost of the city, the Lord Justice Clerk, and the Bishop of the Episcopal Church.

Vacancies at the Edinburgh Royal Infirmary.

Owing to the death of Dr. A. L. Gillespie there is a vacancy in the medical registrarship at the Royal Infirmary and Dr. A. Goodall, Dr. C. M. Pearson, and Dr. A. Dingwall Fordyce are all candidates for the post. Dr. J. M. Beattie, one of the assistant pathologists to the Royal Infirmary, who is also senior assistant in the pathological department of the University, has resigned his post in the infirmary and it is being sought for by Dr. G. Lyon, a University assistant, and by Dr. W. T. Ritchie.

The University of Glasgow.

There are among those upon whom the Senate at its meeting on Feb. 16th resolved to confer the honorary degree of Doctor of Laws (LL.D.) two in whom the medical profession are specially interested. These are Alexander Crum Brown, M.D. Edin., D.Sc. Lond., F.R.S., professor of chemistry in the University of Edinburgh, a position which he has held since 1869; and Sir William Whitla, M.D. R.U.I., L.R.C.P. & S. Edin., professor of materia medica and therapeutics, Queen's College, Belfast.

The Outbreak of Typhus Fever in Aberdeen.

In his monthly report Dr. Matthew Hay states that from the commencement of the outbreak to the end of December there were 34 cases with nine deaths; during January 32 cases with five deaths; and in the first half of February 34 cases with one death; making a total of 100 cases with 15 deaths. The mortality has greatly decreased though the cases are increasing and fewer cases under middle age are dying as the epidemic progresses. Up to the end of December the ages of the fatal cases ranged from 18 to 62 years, three being below and six above 40 years; while during January they ranged from 44 years to 62 years. The age of the one person dying during the first half of the present month was 41 years. Of the 100 cases six were children of five years and under, and in 41 cases the ages ranged from five to 15 years. Of the 23 cases in which the ages were from 15 to 25 years there were two deaths, and there was also a death among the 13 cases in which the ages were from 25 to 40 years. The death-roll was heaviest between 40 and 60 years, 10 of the 15 cases dying. Two persons over 60 years were attacked and succumbed. Regarding these figures, Dr. Hay remarks that the most distressing feature is the very high mortality among persons above 40 years of age. Of the 17 persons above this age 12 have died. This is in striking contrast with the low mortality among persons below this age—83 cases with three deaths. If typhus fever, like measles or whooping-cough, were confined—by the immunity of older persons through previous attacks—to young persons it would be considerably less dangerous than almost any of the common zymotics. It is the very high mortality among older persons which invests it with its popular and traditional terrors. As to the distribution of the cases among households it is of interest to note that 75 of the 100 cases were confined to 15 families, ranging from three cases in each of five families to eight cases in one family and nine in another. For three months the disease remained undiscovered in the city, no means whatever being taken to isolate the sick and to prevent the spread of the infection, and yet only 34 cases are known to have occurred during this period. In no case during this period has the disease, so far as is known, been communicated through contact with an intermediary. No clue has yet been obtained as to the primary source of the infection.

University of Aberdeen Medical Society.

The last meeting for the session of this society was held on Feb. 17th. Dr. James Clark having read an interesting paper on Visceral Pain, the reports of the secretaries and the treasurer were read and adopted. These showed the society to be in a flourishing condition. The following office-bearers were then elected:—Honorary president: Professor J. T. Cash. Presidents: Mr. A. S. Leslie and Mr. W. M'Kerrow. Secretaries: Mr. J. F. Gill and Mr. T. Chalmers. Treasurer: Mr. E. K. M'Kenzie. Committee: Mr. J. Donaldson, Mr. R. J. Duthie, Mr. A. J. Pirie, Mr. G. Mitchell, Mr. W. G. MacDonald, and Mr. J. Mitchell.

University of Aberdeen Anatomical and Anthropological Society.

A meeting of the above society was held on Feb. 18th in Marischal College, Professor R. W. Reid being in the chair. Dr. Clark exhibited and described a pair of Distorted Feet of a female Chinese subject presented to the museum by Dr. W. R. C. Middleton, medical officer of health of Singapore. Owing to a peculiar superstition among the Chinese these specimens are very difficult to obtain and the society felt deeply indebted to Dr. Middleton for his gift. Together with the feet were shown the shoes that had been worn during life. Dr. Clark, having carefully dissected one of the feet, described in detail the soft parts and the bones. A series of excellent x ray photographs proved that the muscles were all fully developed but showed fatty degeneration of the muscular fibres and also that the individual bones were all quite normal in shape. The only difference was an alteration in the relative position of the various bones. Dr. Clark explained the method of producing the deformity and the probable reason of its being practised. Several anatomical variations which had been found in the dissecting room were also described and shown by members.

Death of Dr. James Alexander Innes.

Dr. James Alexander Innes, for about 40 years a medical practitioner in Dufftown, died on Feb. 14th after a short illness. The deceased was a native of the district, his father, the late Mr. John Innes, being a farmer in Auchindoun. Dr. Innes had a large practice in the neighbourhood and was also consulted by many people from the adjoining shires. About 25 years ago a large sum of money was collected in the district to present him with a testimonial, but when the movement was brought to his notice he requested that the money should be returned to the donors, stating that many had contributed who required the money themselves. He read and studied much and always kept up to date in regard to his professional work. Dr. Innes was in his sixty-sixth year and had continued in practice until a few months ago.

Honours to Scottish Practitioners in Spain.

Dr. W. A. Mackay and Dr. Ian Macdonald, both of whom practise in Huelva, Andalusia, Spain, have been elected honorary members of the Academy of Medicine and Surgery of Seville and the latter in an open concours has been awarded the prize of the Academy of Medicine and Surgery of Saragossa for an essay on Gastro-enterostomy, the clinical material being furnished by the Huelva Hospital and the clinic of Dr. Mackay and Dr. Macdonald.

Feb 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Royal College of Surgeons in Ireland.

THE annual Charter dinner of the Royal College of Surgeons in Ireland has now been fixed to take place on Saturday, Feb. 25th. Owing to this fact the Leinster branch of the British Medical Association has issued a circular to its members stating that it has been deemed necessary to abandon, at all events for the present, the branch annual dinner. The business of the annual meeting of the association will be transacted on Feb. 25th at the Royal College of Physicians of Ireland, Kildare-street, Dublin.

A Public Health Museum

At a meeting of the Medical Faculty of the Catholic University School of Medicine held on Feb. 16th the following motion was carried unanimously:—

That this faculty is of opinion that the establishment of a public health museum by the Department of Agriculture and Technical Instruction of Ireland would be of great educational advantage to the public as well as to many professions and trades.

Feb. 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A New Chloroform Inhaler.

AT a meeting of the Academy of Medicine held on Jan. 24th M. Reynier showed a new inhaler devised by M. Dupont and M. Thurneyssen by means of which a mixture of air and chloroform vapour in definite proportions could be obtained for the production of anæsthesia. He criticised the ordinary method in which the personal qualifications of the anæsthetist assumed undue importance and in which it was impossible to determine relative proportions of chloroform and air in the mixture inhaled under the compress. He then gave a historical outline of the various inhalers by means of which the proportion of chloroform vapour could be regulated at will; they were far safer than the above-mentioned method. He had examined the inhalers of Paul Bert, Raphael Dubois, and others. He disapproved of the patterns which contained valves, for valves were liable to derangement and, as the experiments of Richet and Langlois have shown, the force of the breath in expiration was not always sufficient to make them act properly. The inhaler of M. Dupont and M. Thurneyssen had no valves; it consisted essentially of a horizontal tube conveying air and having a vertical tube containing chloroform connected to it at right angles. Air drawn through the first tube carried with it chloroform vapour the proportion of which might be adjusted by a graduated regulator. It has been found practically that the expired air, loaded with water vapour, could not make its way into the chloroform tube. The inhaler was provided with a thermometer which served an important purpose, for the proportion of chloroform vapour rose rapidly with a rise of temperature. M. Reynier has made practical use of the inhaler 125 times for the performance of surgical operations varying from gastro-enterostomy to simple curettage. He was impressed by the facility with which the patients became unconscious without struggling and almost without vomiting. M. Reynier recommended the general adoption of this inhaler which was very simple, was not expensive, and gave the surgeon complete security. At the meeting of the Academy held on Jan. 31st the topic was resumed by M. Lucas-Championnière whose opinions differed in many respects from those of M. Reynier. He said that physiological experiments on dogs, a method on which M. Reynier relied, gave results which were not strictly applicable to the human subject. Paul Bert had determined limits within which the chloroforming of dogs was practicable but for the human subject these limits could not be defined because no one would venture to expose a fellow creature to the risks of an experiment pushed to the point of danger. In recorded fatal cases the doses were often very small. It was necessary to pay great attention to the susceptibility of the individual patient and for that reason a competent anæsthetist who supplied drops according to the requirements of the moment would always be preferable to inhalers, even the most perfect, all of which required to be managed by a competent person. In a general way M. Lucas-Championnière distrusted inhalers which worked at constant pressure. Not even the purest samples of chloroform always yielded the same quantity of vapour at the same temperature. Nothing was therefore, in his opinion, equal to the intelligent control of an experienced anæsthetist, for the human factor, although in some respects an unquestionable source of danger, was, on the whole, the best guarantee of safety. If absolutely compelled to use an inhaler he would give the preference to the one which supplies a mixture of oxygen and chloroform vapour and is known by the names of M. Roth and M. Guglielminetti. The action of this inhaler could be constantly and easily controlled by the operator. Since it has been employed in the hospitals it has always answered perfectly, so far as M. Lucas-Championnière has seen. Insensibility was produced readily and without struggling and was maintained with a very small quantity of chloroform; recovery was easy and owing to the presence of undiluted oxygen this stage was soon completed. There were few, if any, troublesome after-effects of the inhalation. M. Reynier replied that the arguments of M. Lucas-Championnière could not alter the facts and that facts had demonstrated that the inhaler which he had described was not only free from danger but possessed other advantages as well. The human factor was a source of great danger; expert anæsthetists might extricate themselves from difficult positions but almost all fatalities were due to the unskilfulness of the anæsthetist. It was quite true that all samples of chloroform did not give the same quantity of vapour at the same temperature, but M. Reynier took as his standard of comparison the chloroform used in the hospitals which was of uniform quality. With respect to the inhaler of Roth and Guglielminetti the use of a drop-counter seemed to be an obstacle to precision in measuring the chloroform and the addition of oxygen was perhaps somewhat inconvenient and not without risk of producing pulmonary congestion. To these observations M. Lucas-Championnière replied that oxygen was not dangerous in this respect and that in the hospitals it was given every day to patients suffering from asystole, a condition which increased the liability of a person to congestion.

A New Surgical Knot.

At a recent meeting of the Société de l'Internat des Hôpitaux de Paris M. Dartigues showed a new double knot for securing vascular pedicles. Passing a ligature under the pedicle he tied it tightly and then without cutting the ends he passed them again under the pedicle at a distance of a centimetre from the previous constriction and finally tied them together. In this way the pedicle was secured by two circular ligatures a centimetre apart and also by the lateral parts passing obliquely between them.

Microbicidal Action of Magnesium.

At a recent meeting of the Academy of Sciences M. F. Diénert stated that on adding metallic magnesium to cultures of the bacillus coli communis and Eberth's bacillus he had found that all the organisms died after two or three days. The addition of magnesia to the cultures did not kill the organisms but only retarded their development. The organisms were, however, killed in two or three days by magnesia in presence of hydrogen, which acted by removing the oxygen.

Gigantism and Goitre.

At a recent meeting of the Neurological Society M. G. Ballet reported the case of a young woman, aged 19 years, who was manifestly the subject of gigantism but who in addition showed all the classical symptoms of exophthalmic goitre. The hypothesis of connecting the relation which exists between gigantism and exophthalmic goitre to hyperthyroidisation is a natural one in this case. It is well known that ablation of the thyroid body with consequent hypothyroidisation brings about arrest of the development of the skeleton and it is therefore rational to suppose that hyperthyroidisation would produce the opposite effect. But in that case the association of gigantism with exophthalmic goitre should be frequent at least in young subjects, which, however, is not the case. It would be more logical to suppose in the case cited by M. Ballet that there coexisted a double lesion of the thyroid body and of the pituitary body.

Poisoning by Violet Ink.

M. Halle recently reported to the Pediatric Society a case in which an infant, aged 16 months, had swallowed about one cubic centimetre of the violet aniline ink which is in common use. One hour after swallowing the ink the mother made the child vomit several times by putting her finger down the throat. The vomited matter was not coloured but it contained some black powder similar to that which is seen at the bottom of a dried-up inkpot. Some hours later the child had shivering, vomiting, and a raised temperature which mounted rapidly to 39° C. There were also facies abdominalis, choleraic diarrhœa, with very fœtid rice-water stools, and for a whole day the child's condition was very grave. On the following day the child was better but the extremities were cyanosed and œdematous. For the next few days troublesome laryngeal spasms occurred but eventually the child recovered.

Miners' Anæmia.

At a recent meeting of the Academy of Medicine M. Brehan, medical officer of the Bethune[1] mines, read a paper upon the above-mentioned subject in which he said that although he believed that the ankylostoma duodenale was in part the cause of the condition yet it was very rarely found in the stools of miners in the North. Of 6000 miners employed by the Bethune Company 4737 work underground

[1] Bethune is a mining town in the department of the Pas-de-Calais not far from Arras.

and are distributed among eight shafts. Only one shaft appeared to be infected. Of 1193 miners examined by M. Brehan extremely few were found to be affected with ankylostoma, but on the other hand 603 men were found affected with trichocephalus and 118 with ascaris. The reason for the rarity of ankylostoma in M. Brehan's opinion lies in the fact that mines of the North do not show underground water-soakage or stagnant pools, and finally that the temperature of the mines is generally below 23° C. In the coal basin of Liège and St. Etienne where ankylostoma is frequently found there is water-soakage and the temperature of the galleries varies from 25° to 30° C., two facts which are very favourable to the hatching of the eggs of the parasite. Prophylaxis consists in the use of boiled water, a strict medical examination of newcomers, and a refusal to employ those coming from a suspected district. Such methods, however, are a serious matter and microscopic examination of the stools would be more satisfactory than a systematic refusal of miners coming from an infected district. Such examination would be a guarantee of safety and would permit non-infected men to be employed.

Feb. 20th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

University Intelligence.

THE number of medical students at the five Swiss Universities for the winter term 1904–05 amounts to 1724. There are 958 female students enrolled in the lists and only 766 men. The number of female students goes on increasing rapidly, especially at the universities of Bern and Lausanne. The numbers stand thus:—

	Males.	Females.	Total.
Basle	123	6	129
Geneva	144	144	288
Lausanne	103	223	326
Bern	187	407	594
Zürich	209	178	387

If the increase of female students goes on at the same rate in the next five years as in the last five years the medical faculties at Bern and Lausanne will be almost monopolised by the fair sex.

Institute for Physical Therapeutics at the University of Zürich.

At a well-attended recent meeting of the Cantonal Medical Society the committee appointed at the previous meeting to consider the question of an institute for physical therapeutics[1] submitted its report. After a discussion of three hours' duration the report was agreed to with some fundamental modifications. The urgent necessity of the institute having its own out-patient department and being independent of the other cliniques was mentioned and obtained favour. The report finally agreed on is to be transmitted to the cantonal authorities, together with the expression of a hope that this institute with a capable director at its head may soon be established and that it may do valuable service both to the public and to science.

Wage Limits for Club Members at Zürich.

The "Krankenpflege" at Zürich is a very large provident society, having at the present time 6000 members. At a meeting of the medical officers held on Feb. 2nd some motions, proposed by the President, Dr. Haeberlin, caused a lively discussion. The proposal to increase the number of members by admitting persons with incomes of £60, £80, £108, £132, and £160, divided into five classes who were to pay monthly instalments of 10*d*., 1*s*., 1*s*. 1½*d*., 1*s*. 3½*d*., and 1*s*. 6*d*. per head, met with opposition from several quarters and at last an amendment, proposed by Dr. T. Zangger, was accepted limiting the right of admission to the three first classes and to persons with incomes under £120 per annum. Thus the scheme of municipalisation of medical service in Zürich, described at length in THE LANCET of Oct. 29th, 1904, p. 1246, will for the present still be limited to the working classes.

Zürich, Feb. 20th.

[1] THE LANCET, Jan. 28th, p. 266.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Suez Hospital.

A NEW hospital, designed to meet the varying wants of a seaport town, was opened by the Egyptian Government last summer. It is well placed just outside the town, being surrounded by miles of desert and provided with a good view of the harbour and adjacent mountains; it is also conveniently near the Hospital for Infectious Diseases. It is of course provided with all modern requirements, electric lighting, hot-water supply, operating theatre, steriliser, laboratories, an excellent house for the English superintendent, and nursing quarters presided over by an English sister. There are separate rooms for private patients and a total of 58 beds, of which 40 were occupied at the time of my visit. Most of the patients were suffering from medical diseases, some from the malignant tertian form of malaria, which is commoner in Suez than other parts of Egypt, and there were four natives recovering from appendicitis, though this has usually been considered a rare disease in this country. The old hospital in the town is still utilised for out-patients and for the treatment of prostitutes.

Neurasthenia.

This complaint is rare among the natives of this country, who are not given to nervous strain, but cases are met with among the Red Sea lighthouse-keepers who are mostly Englishmen. They suffer from sleeplessness, emotional symptoms, tremors, and exaggerated reflexes which the men themselves put down to their lonely life and the monotony of their existence and their food. The tinned food causes dyspepsia and consequent loss of weight but not scurvy. There are always three men in each lighthouse, while the fourth is absent on leave, and they are only visited every three months when they get letters and newspapers. Two men lately committed suicide after leaving Egypt and a third developed delusions.

Sleeping Sickness.

Captain E. D. W. Greig, I.M.S., was one of those sent by the Royal Society with Colonel Bruce, R.A.M.C., and Dr. D. N. Nabarro, in 1903 to Uganda and as he is now passing through Cairo on his way to London he very kindly consented to deliver a lecture on Sleeping Sickness at the Medical School. About 100 interested people besides the students attended the lecture which was delivered in the Pathological Museum and was illustrated by maps, temperature charts from man and monkey, and beautiful diagrams of the tsetse fly and the trypanosome prepared by Dr. Looss. Only 100 years ago the disease was first described as a separate complaint and until 1901 it was thought to be confined to West Africa between the Congo and the Senegal and its cause was shrouded in mystery. Its introduction into Uganda can be accounted for by the opening up of trade routes from West Africa. The total loss from this cause since 1901 in the Uganda Protectorate is 100,000 and the monthly death-rate is still at least 1000, so that if sleeping sickness continues unchecked the whole population will shortly cease to exist. The disease is limited almost entirely to the northern shores of the Victoria Nyanza Lake and to the various islands in the lake. Two maps, exhibiting the distribution of the disease and the prevalence of the glossina palpalis, showed the exact coincidence of the tsetse fly and the endemic. Fortunately imported cases in inland villages do not cause spread from man to man but the disease in the endemic area has already destroyed all the natives of some districts. Captain Greig insists that the name of the disease is misleading, because sleepiness only occurs in the latest stage which may last three or four months; this may be replaced by mania and morbid elevation of the mental powers. The most important early sign of the disease is enlargement of lymphatic glands, especially those of the cervical region. This has been known for years to the slave dealers who in the old days refused to let a slave with these glands enlarged join the caravan because he was almost certain to die on the journey. Captain Greig has discovered that by puncturing the cervical glands with an ordinary syringe trypanosomes can be seen under the microscope long before the fever and other symptoms occur. He calculates that about 70 per cent. of the general population of areas in which sleeping sickness is endemic are in this early stage which may

terminate in one of three ways: (1) by extension of the trypanosome to the lymph spaces of the brain and the spinal cord, constituting sleeping sickness proper; (2) by death from intercurrent disease, of which the most common is pneumonia; and (3) by the disease becoming very chronic and possibly ending in recovery. With regard to this last point the lecturer told me that there are several cases of individuals still alive who certainly had the disease in 1902 and 1903. There is therefore a probability that many of the inhabitants may become immune or "salted," as is the case in many diseases of animals. So long as the trypanosome is confined to the lymphatic glands the temperature is normal and there are no obvious symptoms except the glandular swellings. But when the parasite gets into the blood irregular fever begins, varying from 100° to 103° F., emaciation and nervous tremors are seen, till in the final stage the temperature gradually sinks till it remains for days as low as 92°, when the trypanosome has invaded the brain and the spinal cord and set up a meningo-myelitis. It is now proved that the trypanosome exists in every case of sleeping sickness and it is a near relation of the parasite which causes surra or nagana in cattle. Inoculation of monkeys with the blood and cerebro-spinal fluid of patients suffering from sleeping sickness produces the same disease in these animals. One fact new to most of the audience is that the glossina palpalis belongs to the pupipara group of insects which produce one larva instead of myriads of eggs. The fly by means of its long proboscis can fill its stomach by sucking infected blood for half a minute and is then ready charged at any time during the next five days to infect any healthy person. Experiments on monkeys lead to the belief that it is not dangerous after five days have elapsed. The fly is most active during the day, which is, of course, the time when the natives are working in the fly belts. The fly seems to require for its life forests of trees granting shade and dense undergrowth in proximity to water. These conditions invariably exist in areas where sleeping sickness and glossina palpalis prevail but as one descends the Nile it is found that 30 miles north of Gondokoro the character of the country changes; there are large open spaces without much undergrowth and the tsetse fly is absent. It is therefore probable that sleeping sickness will not spread to the Sudan and Egypt, though the forest conditions of the Bahr-el-Gazzal are said to be quite favourable to the habits of this special tsetse fly. South of the Victoria Nyanza the country again changes to open ground and this fly is absent. A synopsis distributed to the audience enabled them more easily to understand the lecture.

Cairo, Feb. 5th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Bubonic Plague.

AN outbreak of bubonic plague has occurred in the Grafton district, New South Wales. The deaths of five persons are stated to have been due to the disease. Rats have been dying in large numbers on the farms where the affected persons lived but plague was not suspected at first. These farms have now been quarantined and a staff, consisting of a medical officer, a sanitary inspector, and a rat-catcher, has gone to Grafton. The last previous evidence of plague was on Dec. 3rd, 1904, when a plague-infected mouse was found in Sydney.

Preservatives in Milk.

The question of the use of preservatives in milk continues to be disputed in the law courts and to occasion differences of expert evidence. On Dec. 22nd, 1904, the Bacchus Marsh Concentrated Milk Company was prosecuted for selling concentrated milk containing 219 grains of boric acid to the gallon. Dr. W. P. Norris, medical inspector to the Board of Health of Victoria, said that the amount of boric acid in the sample was unnecessary and harmful and in great excess of the amount said to be necessary by the advocates of the use of preservatives in milk. In his opinion refrigeration would keep the milk as long as the Bacchus Marsh Company said its milk should be kept. For the defence Dr. J. W. Springthorpe, lecturer on hygiene at the University of Melbourne, said that he had used boric acid in doses of 30 grains per day in over 300 cases of typhoid fever, also in epilepsy and other diseases, and had never seen any injurious effects. It would be impossible to keep concentrated milk more than a day without preservatives. He considered that stale sterilised milk was worse than milk with preservatives. Mr. A. H. Jackson, B.Sc., president of the Institute of Analysts, said that preservatives were not injurious when used in the manner stated in the case in dispute. The bench fined the defendant company and said that the law did not recognise the use of preservatives.

Treatment of Inebriates in New South Wales.

Some two years ago the New South Wales Parliament passed an Inebriates Act under the provisions of which the Government sanctioned the erection of two State institutions for the treatment of inebriates without means. One of these for females, situated on Rabbit Island on the Hawkesbury river, has been partly erected and will accommodate 72 patients. It consists of two pavilions for sleeping accommodation, dining room, kitchen, laundry, workroom, reception house, officers' quarters, and matron's cottage. An abundant supply of good water has been obtained. The institution was inspected recently by the Minister of Works who will probably advise the Cabinet to utilise the buildings early in the year.

Hospital Affairs.

The Kronheimer wing at the Austin Hospital, Melbourne, still remains unopened owing to the action of the Premier. At a recent meeting of the executive committee of the Society for the Prevention of Tuberculosis it was decided to bring the matter officially under the notice of the respective medical societies with the view of inducing them to take united action to secure the withdrawal of the opposition of the Premier.—Some feeling has been roused by the refusal of the directors of the Sydney Hospital to appoint a woman as resident medical officer. It has been customary annually to appoint six members of the resident staff of the Sydney Hospital and the Royal Prince Alfred Hospital from the best students who have just passed their final examinations at the University of Sydney. Among these at the last election was Miss Susie O'Reilly. The selection is usually made by a conjoint board consisting of the presidents and professional delegates from the hospitals concerned. On this occasion, however, the board selected six men for the Prince Alfred Hospital and five men for the Sydney Hospital and left the sixth appointment an open question for the directors of the latter institution. This body decided not to appoint Miss O'Reilly but a male graduate.—The fourth annual meeting of the Sydney Medical Mission was held recently. The medical report showed that 3216 visits were paid to the homes of 720 patients and that the total number of patients treated was 2256.

The Board of Public Health of Victoria.

The Government has appointed Dr. William P. Norris to the position of chairman and chief medical inspector of the Board of Public Health of Victoria, rendered vacant by the death of Dr. D. Astley Gresswell. Dr. Norris is a native of Victoria and studied medicine at the University of Melbourne, where he was a brilliant student and graduated as M.B. in 1888 and M.D. in 1892. After some years in private practice he went to England and studied sanitary science, obtaining a diploma in public health. Returning to Victoria he obtained the appointment of assistant medical inspector to the Board of Health, which he has since filled very satisfactorily.

The Death-rate of Sydney.

The death-rate of the city of Sydney during the first 11 months of 1904 equalled 12 per 1000 of the population, being the lowest experienced in the city during the past seven years at least. Calculated on the number of births the infantile mortality rate for the first 11 months of 1904 was equal to 118 deaths per 1000.

Instruction in Dentistry at the University of Sydney.

The Senate of the University of Sydney at its last monthly meeting adopted an amended curriculum for the department of dental studies leading to the degree of Bachelor of Dental Surgery. The amalgamation of the University Dental Hospital and the Sydney Dental Hospital is now satisfactorily completed and working well.

Jan. 10th.

VACANT CHAIRS AT THE UNIVERSITY OF KAZAN.—There are, says the *Meditr. Obozrenie*, seven vacant chairs in the University of Kazan: anatomy, operative surgery, psychiatry, diagnosis, special pathology, therapeutics, and forensic medicine and pharmacy.

Obituary.

ROBERT STEVENSON THOMSON, M.D., D.SC. GLASG., F.F.P.S. GLASG.

BY the death of Dr. R. S. Thomson, professor of the practice of medicine in Anderson's College Medical School, Glasgow has lost one of its most distinguished and respected members of the profession as well as one of the most successful of extra-mural teachers. Dr. Thomson became seriously ill at the beginning of September last but after two or three weeks of great anxiety on the part of his friends he rallied and hopes were entertained of his ultimate recovery. These hopes were to some extent confirmed by his progress up to the new year and for a short time afterwards but a more serious phase of his illness set in about a month ago which brought about the fatal termination. Dr. Thomson was born in Southampton 47 years ago. He spent his earlier years in St. Petersburg, his father being an engineer in that city. He received his education, however, in Glasgow, attending first the Glasgow Academy and subsequently the University of Glasgow. He devoted himself to science as well as medicine, taking the degree of B.Sc. in 1880 and those of M.B., C.M. in 1882. Subsequently he was resident physician in the Western Infirmary under Dr. J. Finlayson; later he held a similar position in Belvidere Fever Hospital and then proceeded to Vienna to supplement his studies there.

For the last 21 years he has been in medical practice in Glasgow but much of his time was devoted to hospital work and to teaching. Among the more important of the various appointments which he has held were those of dispensary physician and then assistant physician to the Western Infirmary, clinical assistant to Dr. Finlayson at the same institution, extra-honorary physician to the Royal Hospital for Sick Children, visiting physician in charge of the Small-pox Hospital, Belvidere, and professor of medicine at Anderson's College Medical School. The latter position he has held since 1899; his success there was immediate, the students numbering last year 120. He has contributed largely to medical literature, chiefly of late in connexion with small-pox and vaccination. He received the degree of M.D. with honours in 1897 and the degree of D.Sc. in 1901. His death will be mourned alike by his friends, the medical profession generally of Glasgow, by whom he was held in high esteem, and by his numerous students past and present. Much sympathy is felt for his widow and relatives.

WILLIAM COBDEN ROWLANDS, M.B., C.M. EDIN.

Dr. William Cobden Rowlands died on Jan. 19th at his residence, Maesteg, Glamorganshire, from pneumonia and pleurisy following an attack of influenza. He was the eldest son of Principal Rowlands of the Memorial College, Brecon, and took part of his medical curriculum at University College, Cardiff, where he was president of the debating society of the college and captain of the cricket eleven. He then proceeded to the University of Edinburgh, where he graduated as M.B. and C.M. with honours in 1897. He was president of the University of Edinburgh Welsh Students' Union and a member of the students' representative council. On becoming qualified he held an appointment as assistant at Aberaman and in 1897 went to Maesteg, where two years later, on the retirement of Dr. John Davies, he took over that gentleman's practice in conjunction with Dr. John Harris Jones. The deceased, who was only 39 years of age, by his kind and gentle manners endeared himself to the hearts of his numerous patients and the news of his early death came as a sad blow to them all. He has left a widow and a little girl. The funeral, which was attended by a very large number of sympathetic friends and representatives of various public bodies, took place at Brecon on Jan. 23rd.

SAMUEL HOLLINGSWORTH AGAR, L.R.C.P. IREL., L.R.C.S. IREL.

THE death of Mr. Samuel Hollingsworth Agar at his residence at Henley-in-Arden, Birmingham, on Feb. 11th, has removed a familiar and useful member of the profession from the Midland counties, in which he was well known and much respected. Mr. Agar was in his seventy-fourth year. He was a native of county Wicklow and after taking the Licence of the Royal College of Surgeons in Ireland went to Henley-in-Arden in 1854. After a time he gave up general practice and devoted his attention to the care of the insane. He became proprietor of a large private asylum—Glendossill, Henley-in-Arden—and his conduct of this establishment and his care and attention to the patients obtained him a wide reputation and caused his opinions to be valued highly. Mr. Agar was a man of much public spirit and was practically impressed with the obligations of civic and political duties. He was a valuable member of the Warwickshire county council and also a justice of the peace for the county. At one time he was president of the Birmingham branch of the British Medical Association, his genial manners and suave address gaining him many friends. Mr. Agar gathered round him a wide circle of friends who became endeared to him through his many virtues. With his deep sympathies, warm heart, and ready help he became a recognised and valued power in the locality in which his life's work was done and his death is much deplored. He was buried at Beaudesert Church, Henley-in-Arden, on Feb. 16th, amid many manifestations of regret. Mr. Agar leaves two sons, one of whom is a member of the medical profession.

Medical News.

UNIVERSITY OF LONDON.—At the Preliminary Scientific Examination for internal and external students held in January the following candidates were successful:—

Inorganic Chemistry, Experimental Physics, and Biology.—John Lee Atkinson, Guy's Hospital; Ardeshir Pestonji Bacha, University Tutorial College; Bertie Blackwood, University of Leeds; Karl Bremer, St. Bartholomew's Hospital, Cornell University, and Victoria College, South Africa; William Gidley Emmett, Nottingham High School; Edith Croft Goodison, London (Royal Free Hospital) School of Medicine for Women; Arthur Gordon Haynes Lovell, St. Mary's Hospital and University Tutorial College; Arthur Griffith William Owen, University College, Bangor, and University of Liverpool; and Edward Albert Seymour, St. Thomas's Hospital.

Inorganic Chemistry and Experimental Physics.—Maurice Beddow Bayly, private tuition and study; *Christopher Francis Sayles Broom, Merchant Venturers' Technical College, Bristol; *Basil William Brown, Birkbeck College; *Monamy A. C. Buckell, University Tutorial College; Winifred Finnimore Buckley, Newnham College, Cambridge; Guy Barton Cockrem, Guy's Hospital; *Ethel Mary Connan, London (Royal Free Hospital) School of Medicine for Women; *Nina Gertrude Cotton, University Tutorial College; *Isaac Marcus Edis, London Hospital and University of Liverpool; *Roger Bellis Edwards, University of Liverpool; *Thomas Charles Cann Evans, St. Mary's Hospital and Epsom College; *Alexander L. Fitzmaurice, Guy's Hospital; *Henry James Hacker, St. Bartholomew's Hospital; *Emily Caroline Holland, University Tutorial College; *Evan Hugh Jones, University College, Bangor; *David Judah, University College; *Gladys Muriel Macaskie, London (Royal Free Hospital) School of Medicine for Women; Kenneth D. Marriner, University of Leeds; Frederick Willoughby Penny, Malvern College; *William Dallas Ross, University Tutorial College and private study; *Henry Gordon Smith, St. Bartholomew's Hospital; *Thomas Anger F. Tyrrell, St. Mary's Hospital; and *Violet Katharine Maria Wilde, London (Royal Free Hospital) School of Medicine for Women.

Inorganic Chemistry and Biology.—Manly McWhinnie Lopez, University College, Bristol; Adrian Leonard Moreton, St. Bartholomew's Hospital; †William James O'Donovan, London Hospital; †Edward Austen Penny, Guy's Hospital; †Norbert Leo M. Reader, University of Leeds; †Harold Ferdinand Renton, University of Leeds; and Harold Herbert Tanner, St. Mary's Hospital and private tuition.

Experimental Physics and Biology.—William Henry Talfourd Jones, Guy's Hospital; Raymond Montgomery, University of Leeds; Thaddeus T. O'Callaghan, Guy's Hospital; John Bailey Tacksberry, Middlesex Hospital; and G. A. Williams, B.A., University College, Cardiff.

Inorganic Chemistry only.—†Herbert Archer, Guy's Hospital; *†Benjamin Biggar, Victoria University and Manchester Municipal School of Technology; *†John Capell, St. Bartholomew's Hospital; *†Colin Harold Crump, Guy's Hospital; *†William Chalmers Dale, St. Bartholomew's Hospital; *†Edgar Lionel Elliott, Guy's Hospital; *†Philip Charles Field, University College, Bristol; *†Violet Evangeline Fox, University Tutorial College and private study; *†Augustin Pownall Fry, St. Bartholomew's Hospital; *†Alan Waltes Hansell, University of Leeds; *†Guy F. Haycraft, Guy's Hospital; *Reginald Melville Hiley, University College, Bristol; *†Henry Hingston, Merchant Taylors' School and private study; *†Philip Hirschbein, Guy's Hospital; †Joseph Stanley Hopwood, St. Thomas's Hospital; *†Harold Francis Lewis Hugo, Charing Cross Hospital; *†John Lawrence Johnston, Guy's Hospital and St. Peter's College, Westminster; *†Thomas Lewis Jones, Guy's Hospital; *Mary Kindersley, University College and London (Royal Free Hospital) School of Medicine for Women; *†John Christopher Lyth, University of Leeds; *†Hubert O'Meara, University and Epsom Colleges; *†Helen Lawson

Peacock, London (Royal Free Hospital) School of Medicine for Women; *†Guy Harcourt Peall, Guy's Hospital; *†Robin Pearse, St. Bartholomew's Hospital; *‡Jean René Perdrau, Guy's Hospital and Royal College, Mauritius; *†Arthur B. Porteous, St. Mary's Hospital and City of London School; *†John Pryce-Davies, Guy's Hospital; *†Edward Argent Saunders, Middlesex Hospital and Epsom College; *†N. Alexander Dyce Sharp, Guy's Hospital; *‡S. R. Shirgaokar, King's College and Grant Medical College, Bombay; *†Margaret G. Thackrah, B.A., *†Elsie Warren, and †Marjorie E. Wagstaff, London (Royal Free Hospital) School of Medicine for Women; and *†Robert Noel Woodsend, University and Trent Colleges.

Experimental Physics only.—*Henry Park Ashe, King's College; *‡Kenneth John Aveling, London Hospital; *James Alexander Bateman Victoria University; *‡Frederic George Chandler, private study; ‡Charles Joshua Fox, Charing Cross Hospital; *‡Lennard Game, King's College; *Hugh A. Grierson, University of Liverpool; *Arthur William Havard, University College, Cardiff; *‡Maurice L. C. Irvine, St. Thomas's Hospital; *‡Henry Goff Kilner, Middlesex Hospital; *Douglas Ashley Mitchell and Cecil Graves Morris, Guy's Hospital; Richard N. Ouseley Moynan, University College; ‡Richard Alfred Parsons, St. Mary's Hospital; *William Faulkner V. Simpson, London Hospital; *James Simpson Strachan, University College, Cardiff; and *Leonard Herbert Taylor, Charing Cross Hospital, Birkbeck, and Epsom Colleges.

Biology only.—*‡Alister R. S. Alexander, University College; *‡Grace M. Cordingley, London (Royal Free Hospital) School of Medicine for Women; *‡Goronwy M. Davies, William Henry Dupré, and Frances Jane Freston, University Tutorial College; Alfred John Gibson, St. Bartholomew's Hospital; William Stanes Luly, University College, Cardiff; †‡James Knowles Milligan, St. Thomas's Hospital; †‡Arthur Oscar Mitchell, Westminster Hospital; Arthur Eustace Morgan, University College, Bristol; Douglas Parkes, University of Liverpool; William Henry Parr, London Hospital; Cecil George Richardson, Westminster Hospital; †‡Benjamin Randall Vickers, University of Leeds; and William Wilson Woods, London Hospital.

* These candidates have already passed in biology.

† These candidates have already passed in experimental physics.

‡ These candidates have already passed in inorganic and organic chemistry.

§ These candidates have already passed in inorganic chemistry.

At the Special Examination in Organic Chemistry for internal and external students held in January (in lieu of Part II. of the Preliminary Scientific Examination) the following candidates were successful:—

Charles Ernest Anderson, King's College; James Alexander Bateman, Victoria University; Thomas Knowles Boney, St. Bartholomew's Hospital; Isidore MacWilliam Bourke, St. George's and Middlesex Hospitals; Herbert Orpe Brookhouse, Guy's Hospital; John Philip Buckley, Trinity College, Cambridge, and Victoria University; John Albert Bullbrook, Guy's Hospital; John Capell and Eric Edmund Chipp, St. Bartholomew's Hospital; Ethel Constance Cousins, London (Royal Free Hospital) School of Medicine for Women and Christ Church Laboratory, Oxford; Archibald Wallace Duncan, St. Mary's Hospital; Isaac Marcus Edis, London Hospital and University of Liverpool; Philip Charles Field, University College, Bristol; Violet Evangeline Fox, University Tutorial College; Augustin Pownall Fry, St. Bartholomew's Hospital; Cyril George Galpin, St. Mary's Hospital; Hugh Arrowsmith Grierson, University of Liverpool; Josephine E. L. Griffiths, London (Royal Free Hospital) School of Medicine for Women; Charles Colgate Holman, Gonville and Caius College, Cambridge; Edward Henry Hugo, Charing Cross Hospital; Harold Francis Lewis Hugo, Charing Cross Hospital; Oswald Robert Kelly, Westminster Hospital; Alfred Everard Lees, Guy's Hospital; William Stanes Luly, University College, Cardiff; Maurice Charles Mason, St. Mary's Hospital; Carl Euclid Molino, University of Birmingham and Derby Technical College; Frederick Peacock, University of Liverpool; Arthur Borland Porteous, St. Mary's Hospital and City of London School; Arthur David Rees, Charing Cross Hospital; Edward Argent Saunders, Middlesex Hospital and Epsom College; John Edward Scudamore, London Hospital; Shantaram R. Shirgaokar, King's College and Grant Medical College, Bombay; and Thomas Anger Fereman Tyrrell, St. Mary's Hospital.

The above lists, published for the convenience of candidates, are issued subject to their approval by the Senate.

UNIVERSITY OF CAMBRIDGE.—The Huddersfield lectureship in special pathology is vacant. Applications are to be made to the Vice-Chancellor by March 7th.—The degree of Doctor of Science, *honoris causâ*, is to be conferred on Dr. E. B. Tylor, professor of anthropology in the University of Oxford.—Professor D. J. Cunningham of Edinburgh has been appointed an elector to the chair of Anatomy, Dr. J. Mitchell Bruce an elector to the Downing chair of Medicine, Professor T. Clifford Allbutt an elector to the chair of Surgery, and Dr. D. MacAlister an elector to the chair of Pathology.—The following degrees were conferred on Feb. 16th:—

Doctor of Medicine.—T. W. Parry, St. John's.

Bachelor of Medicine.—F. S. Kidd, Trinity; A. G. Harvey, St. John's; R. G. Wills, St. John's; and E. M. Brown, Pembroke.

Bachelor of Surgery.—L. Courtauld, Trinity; A. G. Harvey, St. John's; and R. G. Wills, St. John's.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in February the following candidates passed in the subjects indicated:—

Surgery.—H. H. R. Bayley (Section II.), Charing Cross Hospital; A. Beeley (Section I.), Leeds; J. A. Davies (Section I.), Manchester; L. Sells (Section I.), St. Thomas's Hospital; R. W. Taylor (Sections I. and II.), Leeds; I. C. Thorburn (Section I.), Liverpool; and P. L. Vawdrey (Section I.), St. Bartholomew's Hospital.

Medicine.—A. Beeley (Sections I. and II.), Leeds; and J. B. Bradley (Section II.), Birmingham.

Forensic Medicine.—A. Beeley, Leeds; H. A. Browning, St. George's Hospital; C. F. Kernot, London Hospital; P. C. W. Laws, St. George's Hospital; W. A. T. Lloyd, London Hospital; and J. A. R. Wells, St. Thomas's Hospital.

Midwifery.—A. Beeley, Leeds; A. J. K. Brayton, Liverpool; O. P. N. Pearn, Westminster Hospital; I. C. Thorburn, Liverpool; and J. H. Wolfe, London Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—H. H. R. Bayley, R. W. Taylor, and J. H. Wolfe.

TRINITY COLLEGE, DUBLIN.—At examinations held in Hilary term the following candidates were successful:—

FINAL IN MIDWIFERY.

Robert Magill, Michael J. M'Auliffe, George E. Nesbitt, Cecil Scaife, Edward G. Scroope, John A. Pringle, John W. Burns, Joseph W. Houston, Richard Kelly, and Robert A. Askins.

THE AMBIDEXTRAL CULTURE SOCIETY.—The opening lecture of this society for the session 1905 was delivered at the Guildhall School of Music, Thames Embankment, E.C., by Professor W. H. Cummings, Mus.D., on Feb. 15th, his subject being Ambidexterity in Music. The second, third, and fourth lectures of the series will be delivered at the rooms of the Royal Statistical Society, Adelphi-terrace, Strand, London, W.C. On March 2nd, at 8.15 P.M., Sir James Sawyer will take for his subject Ambidexterity from some Points of View of a Physician; on March 16th, at 8 P.M., Sir W. B. Richmond, K.C.B., will deal with Ambidexterity in Art; and on April 13th, at 5 P.M., Mr. E. Noble Smith will discourse on Ambidexterity in Surgery.

THE EDUCATION AND TRAINING OF NURSES.—A meeting convened by the Matrons' Council of Great Britain and Ireland and the Society for the State Registration of Trained Nurses was held at 20, Hanover-square on Feb. 22nd to protest against the terms of the memorandum of association of the Incorporated Society for Promoting the Higher Education and Training of Nurses. Lady Helen Munro Ferguson presided and there was a large attendance. Three motions were unanimously agreed to, the first embodying the protest for which the meeting was held and affirming that "no powers can be usefully or successfully exercised except by a body composed of professional persons upon which trained nurses have direct and sufficient representation"; the second supporting the Bill for the registration of trained nurses introduced into the House of Commons by Mr. Munro Ferguson, M.P.; and the third stating that a deputation should be sent to the Board of Trade to present to the president of that body the first two resolutions.

THE QUEEN'S JUBILEE HOSPITAL.—We have been requested to publish the following resolutions which were put forward and agreed to at a meeting of members of the medical staff which was held on Feb. 6th:—

1. That the disorganisation in the nursing staff is due to the action of the board of management in retaining nurses who had been unfavourably reported on by the medical staff and matron.

2. That the undersigned members of the medical staff having watched the management of the hospital during some years think that there is no prospect of improvement under the present influences and are unable, therefore, to continue their connexion with the institution but are willing to continue their attendance on the patients pending the appointment of successors.

(Signed) A. M. WARE, M.D.
W. E. MILES, F.R.C.S.
J. MORRISON, M.D.
MILSOM REES, F.R.C.S.
R. P. BROOKS, F.R.C.S.
C. N. BARTON, M.R.C.S.

LADS' DRILL ASSOCIATION.—The annual report of the Lads' Drill Association shows that continuous and steady progress has been made during the year 1904 in the systematic physical and military training of British lads. Conscription is an unpopular word and the system which it denotes is hardly likely to be tolerated by this country except under dire necessity. It is nevertheless desirable that every Englishman should be able to handle a rifle effectively should he be called upon to defend his country. The training necessary to produce this result is one of the objects of this association and it is therefore one deserving of support. To train youths to arms during the educative period of their lives would probably have a useful moral effect upon the hooligan and loafing element of the

population, always, of course, provided that the lads were properly fed. Lord Meath is the chairman of the association and the secretary is Colonel W. Elliott, whose address is 44, Harrington-gardens, London, S.W.

A LECTURE will be delivered to-day (Saturday, Feb. 25th), at 3 P.M., by Sir William J. Collins, chairman of the education committee, London County Council, on "The Man *v.* the Microbe," in the Marlborough Room at the Polytechnic Institute. Dr. Allan Macfadyen will occupy the chair.

UNIVERSITY COLLEGE HOSPITAL.—At a meeting held on Feb. 14th of Sir Donald Currie's Donation Committee Mr. Paul Waterhouse was appointed architect for the erection of the school of advanced medical studies, students' house, and the nurses' home in connexion with University College Hospital.

EXETER DISPENSARY.—The annual meeting of the subscribers to the Exeter Dispensary was held on Feb. 15th. The report stated that 5329 patients had been treated during 1904, as compared with 5440 in 1903. The financial statement showed that the total expenditure for the year was £1699 and that an adverse balance of £72 remained.

DONATIONS AND BEQUESTS.—By the will of Mrs. Mary Worthington of Sale, Chester, vice-president of the Union of Manchester University Women Students, a sum of £1000 is bequeathed to the Owens College, Manchester, and a like sum to the Manchester and Salford Sick Poor and Private Nursing Institution.—The late Miss Ellen Peel of Dorking bequeathed £500 to Dorking Cottage Hospital and the same amount to Tamworth Cottage Hospital.—Under the will of Mr. Augustus George Hubbuck of Rotherfield, Sussex, the East London Hospital for Women and Dispensary at Shadwell receives £2000, and the Chelsea Hospital for Women £1000.

THE ASSOCIATION FOR PROMOTING THE TRAINING AND SUPPLY OF MIDWIVES.—The annual meeting of this association was held at Caxton Hall, Westminster, S.W., on Feb. 14th, under the chairmanship of Mr. H. Cosmo Bonsor. One of the main objects of the association as stated in the report, which was unanimously adopted, "is to become a centre or bureau of information for the public, relative to the requirements of the Midwives Act, and its working all over the country." The council hopes that the education committee of the London County Council will include lectures to midwives in its technical courses, provided audiences can be insured, and with this object in view the various districts of London are being canvassed by the association. The preliminary result of this canvass points to a successful result. The financial committee appeals for help to defray the liabilities of the year.

EXTENSIONS AT THE MEDICAL SCHOOL, NEWCASTLE-ON-TYNE.—We have received plans and drawings showing the proposed extensions at the present Medical School at Newcastle-on-Tyne. The new wing, which will extend along the west side of the present building, will be 119 feet in length, with a caretaker's house at the south end. The whole of the ground floor is given up for the use of the students and will contain a gymnasium, 40 feet by 30 feet by 18 feet high, with bath-room, lockers, &c., attached to the same; also reading, dining, and smoking rooms, kitchen, larders, &c. The first floor will contain a laboratory, 40 feet by 30 feet; histology room, 40 feet by 30 feet, with research and professors' rooms attached to same; also a dark and optical room. On the second floor there will be a lecture theatre, 40 feet by 30 feet by 16 feet high, to accommodate 100 students, a bacteriological room, 40 feet by 30 feet, with research room, professors' private rooms, and a dark and optical room. The new wing has been designed to harmonise with the present building and will be built of bricks, stone sills and mullions, and terra-cotta strings and cornices, and the roof will be covered with green Westmorland slates. Special attention has been paid with regard to the light required for the microscopical work. The windows in the bacteriological and histology rooms contain no transoms or mullions. All the floors will be fireproof and the surface will be finished with granolithic cement. A newellite dado, four feet six inches high, will go round the bacteriological and histology rooms, and the laboratory, and the walls will be finished with adamant and ripolin. All the corners will be rounded, so that there will be no crevices for dust or dirt to lodge and the doors will be flush-panelled on the inside. The building will be lighted throughout by electricity and will be heated on the hot-water low-pressure system and will be ventilated by extraction flues with electric fan in the roof. The building has been designed by the firm of Messrs. Dunn, Hansom, and Fenwicke, architects, 23, Eldon-square, Newcastle-on-Tyne.

WESTON-SUPER-MARE HOSPITAL.—At the annual meeting of the subscribers to this institution held on Feb. 17th it was reported that 436 patients had been treated during 1904, an increase of 106 as compared with the previous year. The daily average number of in-patients was 26·5. The financial statement showed that a favourable balance of £101 remained.

ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND.—The inaugural dinner of the Association of Medical Diplomates of Scotland was held at the Trocadéro Restaurant, London, on Feb. 14th, Mr. C. St. Aubyn-Farrer being in the chair. After the usual loyal toasts had been duly honoured Mr. E. Noble Smith proposed the toast of "The Navy, Army, and Auxiliary Forces." Sir J. A. Clark, in replying, urged upon the members of the medical profession the duty of preparing for the time of war so that should the necessity arise they could render efficient help more quickly than was the case in the South African war. This toast was also replied to by Colonel J. Anderson, I.M.S., and Brigade-Surgeon-Lieutenant-Colonel E. J. Hunter. Mr. St. Aubyn-Farrer then proposed the toast of "The Association of the Medical Diplomates of Scotland" and gave a glowing account of the progress and success of the association. He was himself attired in the new gown granted by the Royal College of Surgeons of Edinburgh to its Licentiates. This gown was the first tangible result of the labours of the association. Dr. Euphemia Stoker replied and was followed by Dr. David Walsh, the secretary of the association, who announced that at the end of December, 1904, 124 members had been elected and up to the present date 14 more, making a total of 138 members. This included 48 London and 90 provincial members. The association included amongst its ranks six lady members. Dr. H. W. Fitzgerald Powell proposed "The Visitors" which was acknowledged by Dr. E. A. Snape and Dr. F. J. Waldo. Dr. C. O. Hawthorne proposed the toast of "The Council and Officers of the Association" which was suitably replied to by Mr. S. Stephenson.

CENTRAL MIDWIVES BOARD.—The members of the Central Midwives Board met on Feb. 16th at 6, Suffolk-street, Pall-mall, Dr. F. H. Champneys being in the chair. The Board considered the subject of the recognition of Poor-law infirmaries as training schools for midwives. Miss J. Wilson said that the Local Government Board some years ago, when Sir Walter Foster was Parliamentary Secretary to the Local Government Board, issued a circular letter to boards of guardians stating that the Local Government Board did not recognise midwives in Poor-law infirmaries but considered them as midwifery nurses. Miss Wilson suggested that the Central Midwives Board should apply to the Local Government Board for copies of all circulars that it had issued dealing with midwifery nurses or midwives. Mr. E. Parker Young pointed out that the Local Government Board knew the rules of the Central Midwives Board and was aware that the Central Midwives Board had to carry out the Midwives Act and was not bound by the circulars issued by the Local Government Board. After Mr. Young had fully stated his views Miss Wilson withdrew her suggestion. The Central Midwives Board then decided that no Poor-law infirmary should be approved as a training school for midwives unless the average number of births reached not less than 75 per annum—i.e., sufficient to insure the necessary number of cases for the training of at least three pupils. It was also agreed that no application from a Poor-law institution to be approved as a training school for midwives should be entertained unless it was in the form of an official communication from the board of guardians concerned, signed by the clerk of the board.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Private Members' Bills.

A LARGE number of private Members' Bills now appear on the order paper of the House of Commons. Those Members who had hoped to secure good places in the first ballot for Bills more or less directly affecting the public health have been disappointed. All the good places for early days have been secured by other would-be legislators and consequently the prospects of obtaining a serious and adequate discussion of the pharmacy and other kindred measures, of which notice has been given, are not particularly bright.

Amendment of the Pharmacy Acts.

In the course of the session the Government may legislate upon the recommendations of the committee on the sale of poisons. It was expected that it would do so last session, but apparently, whatever be the intentions of Ministers, the efforts of private Members to secure some reform will not be relaxed. Mr. THOMAS LOUGH has already brought in a Bill "to provide for the further regulation of the sale of poisons and the compounding of medical prescriptions and to amend the Pharmacy Acts, 1852 and 1868." The Bill has the support of Sir MANCHERJEE BHOWNAGGREE, Mr. HENNIKER HEATON, Mr. CROOKS, Mr. OSMOND WILLIAMS, Mr. ELLIS GRIFFITHS, Mr. JAMES REID, Mr. MUNRO-FERGUSON, Mr. MARSHALL HALL, Mr. REMNANT, and Mr. ERNEST GRAY—a group of Members drawn from both sides. The second reading has been put down provisionally for March 24th.

Municipal Milk Depôts.

The agitation for a greater control over the milk-supply of London has led to the introduction of a Bill to allow metropolitan borough councils to establish and to maintain milk depôts. Mr. THOMAS LOUGH is again the sponsor. Associated with him are Dr. J. G. SHIPMAN, Sir CHARLES DILKE, Mr. WHITELEY, and Dr. MACNAMARA.

Juvenile Smoking.

Apparently the crusade against juvenile smoking is still being carried on with some vigour. Since Parliament opened a number of petitions have been lodged praying for legislation on the subject.

A Public Health Bill.

On March 1st Sir ALFRED HICKMAN will present a Bill to amend the Public Health Acts.

Medical Act (1886) Amendment Bill.

General LAURIE has again brought forward his Bill to amend the Medical Act of 1886. It deals with the position of colonial practitioners coming to this country. He has the support of Sir WALTER FOSTER, Sir JOHN BATTY TUKE, Mr. ROTHSCHILD, Sir HOWARD VINCENT, Mr. MIDDLEMORE, and Sir MANCHERJEE BHOWNAGGREE.

HOUSE OF COMMONS.

FRIDAY, FEB. 17TH.

Indian Medical Service

Mr. HEMPHILL asked the Secretary of State for India whether his attention had been called to a memorial presented over three years ago on behalf of the officers of the Indian Medical Service in civil employ in Burma, praying for the grant of compensation allowance for the extra expense of serving in that province on the same footing as such allowance was made to the officers of the public works, telegraph, forest, and postal departments; and whether any steps were about to be taken to grant the prayer of such memorial.—Mr. BRODRICK replied: Officers of the Indian Medical Service in civil employ in Burma were placed upon the same footing as officers in other departments in respect of local allowance in December, 1903.

Salaries of Irish Dispensary Medical Officers.

Mr. HEMPHILL asked the Chief Secretary for Ireland whether his attention had been called to the recent resolutions of the board of guardians of the Strabane union increasing the salary of Dr. J. M. Trimble, the medical officer of the Strabane dispensary district, from £120 to £150 a year, in consideration of his length of service and the heavy duties which he had to discharge; and, if so, whether he could state on what grounds such resolutions had been disregarded by the Local Government Board; and whether effect would now be given to the same.—Mr WYNDHAM said: The Local Government Board has not disregarded the resolutions. With a view to carry out the proposal of the guardians the Board suggested that a scale fixing the minimum and maximum salaries with interim incremental additions should be formulated and made applicable to the entire dispensary medical staff of the union. The Board considers that this alternative is preferable to increasing individual salaries at irregular intervals. In September last the guardians decided to prepare and to submit a scale which, however, has not yet been received.

MONDAY, FEB. 20TH.

Complaint against an Irish Dispensary Medical Officer.

Mr. J. P. FARRELL asked the Chief Secretary for Ireland whether he was aware that, although frequently requested to reside in his dispensary district, Mr. H. Pentland of Mohill persisted in residing in that town; and, if so, whether, in the interests of the sick poor, Mr. Pentland would be now directed to take up his residence in the dispensary district he served the same as other dispensary medical officers in Ireland.—Mr. WYNDHAM said: I have no information on the first part of the question and the Government has no power to take action in the direction suggested.

Constabulary Medical Officers in Belfast.

Mr. SLOAN asked the Chief Secretary for Ireland to explain why the position of constabulary medical officer recently vacant in one of the divisions of Belfast had not been filled in the usual manner; and to give the names of the medical men to whom the work had been allocated.—Mr. WYNDHAM answered: It was not considered necessary to fill the vacancy and the work which was done by five medical men is now done by four—Dr. O'Connell, Dr. Montgomery, Dr. Maguire, and Dr. O'Brien.

TUESDAY, FEB. 21ST.

Maintenance of the Insane.

Mr. FLYNN asked the Chief Secretary for Ireland whether he had received a copy of a resolution from the managing committee of the Cork District Lunatic Asylum calling attention to the state of law which enabled insane patients belonging to other counties to be committed and remain chargeable to the local rates if they became insane when about to embark at Queenstown and to the grievance of patients being deported from England and Scotland after several years of residence in these countries; and, if so, whether the Irish Government would take any steps, by legislation or otherwise, to remedy the alleged grievance.—Mr. WYNDHAM answered: The resolution has been received. Legislation would be necessary to remedy the grievances referred to but I am unable, at present, to give an undertaking to introduce such legislation.

Cancer in India.

Answering Mr. WEIR, Mr. BRODRICK said: Medical officers in India are now required to record every case of cancer coming under their observation and to send a copy of the record to the Cancer Research Fund. The reports of the Fund will show the prevalence of the disease in the different provinces so far as this can be ascertained from the data thus collected.

Underfed Children.

Dr. MACNAMARA asked the Secretary to the Board of Education whether he had considered the recommendation of the Physical Deterioration (1904) Committee to the effect that definite provision should be made by the local education authorities for dealing with the question of underfed children; and whether he was in a position to say whether proposals embodying that recommendation would be laid before Parliament in the present session of Parliament.—Sir WILLIAM ANSON replied: It is not intended to make any proposal for adding to the existing powers of local authorities in the matter referred to.

Recommendations of the Physical Deterioration Committee.

Dr. MACNAMARA asked the Secretary to the Board of Education whether he had considered the various recommendations of the Physical Deterioration (1904) Committee; and whether, if so, he was in a position now to say how far the Board found it expedient and possible without further legislation to carry out those recommendations.—Sir WILLIAM ANSON said: I have considered the recommendations referred to, some of which would need legislation to bring them into effect while others might be carried out through the agency of local or central administration. But I think that the hon. Member will see how impossible it is for me to state in answer to a question the view of the Board as to what is expedient or possible in respect of recommendations which are 54 in number and which in some cases touch on topics of a highly controversial character.

Juvenile Smoking.

Dr. MACNAMARA asked the Secretary of State for the Home Department whether his attention had been called to the recommendation of the Physical Deterioration (1904) Committee to the effect that a Bill should be brought before Parliament at an early date having for its object the prohibition of the sale of tobacco and cigarettes to children below a certain age and whether he was now in a position to say that this recommendation would be acted upon in the present session.—Mr. AKERS-DOUGLAS replied: I am aware of the recommendation in the report and I have given the question very careful consideration, but I do not see my way to introduce any Bill on the subject during the present session. The public attention which has been called to the evils of juvenile smoking is likely, I think, to do good by arousing parents to exercise more control over their children in this respect.

BOOKS, ETC., RECIEVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, W.C.

Bad Kissingen as a Health Resort. With Notes on the Diseases Most Benefited by its Baths and Mineral Waters. By A. Rosenau, M.D. Würzburg, L.R.C.P. Lond., Member, British Medical Association, &c., Physician at Bad Kissingen. Price not stated.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

A Handbook of Clinical Electric-light Cystoscopy. By E. Hurry Fenwick, F.R.C.S., Surgeon to, and Lecturer on Clinical Surgery at, the London Hospital. Price 12s. net.

Guy's Hospital Reports. Edited by J. H. Bryant, M.D., and F. J. Steward, M.S. Vol. LIX., being Vol. XLIV. of the Third Series. Price, to subscribers, 6s.; to non-subscribers, 10s. 6d.

The Infectivity and Management of Scarlet Fever. By W. T. Gordon Pugh, M.D., B.S. Lond., Senior Assistant Medical Officer, North-Eastern Hospital, Metropolitan Asylums Board, London. Issued by the Medical Officers of Schools Association. Price 1s.

F. A. DAVIS COMPANY, 1914-16, Cherry-street, Philadelphia.

Text-book of Insanity based on Clinical Observations. For Practitioners and Students of Medicine. By Dr. R. von Krafft-Ebing, late Professor of Psychiatry and Nervous Diseases in the University of Vienna. Authorised translation from the last German Edition, by Charles Gilbert Chaddock, M.D., Professor of Diseases of the Nervous System in the Marion-Sims-Beaumont College of

Medicine, Medical Department of St. Louis University, St. Louis, Mo. With an Introduction by Frederick Peterson, M.D., President of the New York State Commission in Lunacy. Price, extra cloth, $4.00 net; half-russia, $5.00 net.

FIFIELD, ARTHUR C., 44, Fleet-street, E.C.

Richard Jefferies: His Life and His Ideals. By Henry S. Salt, Author of "The Life of Henry David Thoreau," &c. New and cheaper edition. Price 1s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BLETSOE, J. H., M.B., B.S. Lond., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

BRADFORD, A. B., M.B., B.S. Durh., has been appointed Senior Ophthalmic House Surgeon at St. Thomas's Hospital.

BRODRIBB, F. A., M.R.C.S., L.R.C.P., has been appointed Resident House Physician at St. Thomas's Hospital.

CARPMAEL, N., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed to the Skin Department at St. Thomas's Hospital.

CARVER, N. C., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Junior Obstetric House Physician at St. Thomas's Hospital.

CHAPMAN, WALTER, M.B., B.Ch. Birm., L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the Fourth District of the Totnes (Devon) Union.

COOK, HERBERT G. G., M.D. Lond., F.R.C.S. Eng., D.P.H. Camb., has been appointed Medical Officer to H.M. Prison at Cardiff.

COUTTS, D. K., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

DEAN, H. R., M.B., B.Ch. Oxon., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

DOUGLAS-CRAWFORD, DOUGLAS, M.B. Edin., F.R.C.S. Eng., has been appointed Honorary Consulting Surgeon to the Liverpool Dental Hospital.

DREW, J. H., M.R.C.S., L.R.C.P. Lond., has been appointed to the Ear Department at St. Thomas's Hospital.

EVANS, H. W., M.R.C.S. Eng., L.R.C.P. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Littleport District of the county of Cambridge.

FOOTNER, G. R., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

FOWLER, F., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed to the Electrical Department at St. Thomas's Hospital.

GIBSON, A. G., M.B., B.Ch. Oxon., B.Sc. Lond., has been appointed Resident House Physician at St. Thomas's Hospital.

GRAY, R. E. G., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

HAWARD, W., M.B., B.S. Durh., has been appointed to the Skin Department at St. Thomas's Hospital.

HAWES, G. C. B., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Pangbourne and Whitchurch District of the counties of Berks and Oxford.

HOWARTH, W. G., M.R.C.S., L.R.C.P. Lond., has been appointed to the Throat Department at St. Thomas's Hospital.

INMAN, A. C., M.B., B.Ch. Oxon., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

KENT, PERCY WHEELER, M.R.C.S., L.R.C.P., D.P.H. Camb., has been appointed Surgeon to the Glamorgan County Police at Barry.

KISCH, H. A., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

KNAGGS, FRANCIS HENRY, M.R.C.S., L.R.C.P. Lond., has been appointed Ophthalmic and Aural Surgeon to the Huddersfield Infirmary.

LANGLEY, G. J., M.B., B.S. Lond., has been appointed to the Throat Department at St. Thomas's Hospital.

MILLS, F. A., M.B., B.C. Cantab., has been appointed Assistant Anæsthetist to the Royal National Orthopædic Hospital.

MILSOME, H. B., M.D. St. And., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Chertsey District of the county of Surrey.

MORGAN, C. Ll., M.R.C.S., L.R.C.P. Lond., has been appointed to the Ear Department at St. Thomas's Hospital.

NORBURY, L. E. C., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

PARRY, E. W., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Obstetric House Physician at St. Thomas's Hospital.

PIERCE, R. W. C., M.D., B.Sc. Lond., D.P.H. Camb., has been appointed Medical Officer of Health of the Borough of Guildford.

POPE, GEORGE STEVENS, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Superintendent at the Somerset and Bath Asylum, Wells.

TAKAKI, K., M.R.C.S., L.R.C.P., has been appointed Resident House Physician at St. Thomas's Hospital.

THOMAS, H. M., M.R.C.S., L.R.C.P., has been appointed to the X-ray Department at St. Thomas's Hospital.

THOMPSON, R. J. C., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

VAUGHAN, J. C. F. D., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

WHITTING, R. E., M.B., B.C. Cantab., has been appointed Resident House Physician at St. Thomas's Hospital.

WRIGHT, F. R. E., M.B. Lond., has been appointed Junior Ophthalmic House Surgeon at St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHNAL GREEN INFIRMARY.—Third Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Assistant Honorary Medical Officer.

BIRKENHEAD UNION, INFIRMARY, WORKHOUSE, AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

CARLISLE, CUMBERLAND INFIRMARY.—Resident Medical Officer. Salary at rate of £80 per annum, with board, lodging, and washing.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and lodging. Also Surgeon-in-Charge (unmarried) of Branch Dispensary. Salary £90 per annum, with board and lodging.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Resident Medical Officer. Salary £100 per annum, with board, &c. Also Pathologist. Salary 100 guineas per annum. Also Two House Physicians for six months. Salary at rate of £30 per annum, with board and residence.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £120, with board and lodging.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Medical Officer for six months, renewable. Salary at rate of £100 per annum, with luncheon. Also House Surgeon for six months. Honorarium £25, with board, residence, &c.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Physician to Out-patients. Also Eight Qualified Clinical Assistants, out-patient department.

GLASGOW, ROYAL HOSPITAL FOR SICK CHILDREN.—Resident House Surgeon. Salary £50 per annum, with board and laundry.

GREENOCK INFIRMARY.—Assistant House Surgeon. Salary £40 per annum, with board and residence.

HAMPSTEAD GENERAL HOSPITAL.—Resident Medical Officer for six months, renewable. Salary at rate of £120 per annum and allowance for rooms.

KENSINGTON WORKHOUSE AND INFIRMARY, Marloes-road.—Second Assistant Resident Medical Officer. Salary £80 per annum, with apartments, board, and washing.

LICENSED VICTUALLERS' ASYLUM, Asylum-road, Old Kent-road, London, S.E.—Medical Officer. Salary £300 per annum.

LINCOLN COUNTY HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Salary £30, with board and lodging.

LONDON HOSPITAL, Whitechapel, E.—Assistant Surgeon.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £50 per annum, with board and residence.

MEDICAL DEPARTMENT OF THE NAVY, 18, Victoria-street, London, S.W.—Three Dental Surgeons. Salary £1 per diem.

MIDDLESBROUGH, YORKSHIRE, COUNTY BOROUGH ASYLUM.—Medical Superintendent. Salary £450 per annum, with house, rates, taxes, &c.

MIDDLESEX HOSPITAL, W.—Second and Third Assistants to the Director of the Cancer Research Laboratories. Salaries £125 and £100 respectively.

MORTLACH PARISH, Dufftown, Banffshire.—Medical Officer. Salary £35 per annum and fees.

NATIONAL HOSPITAL FOR THE RELIEF AND CURE OF THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Assistant Physician for Out-patients.

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

QUEEN'S JUBILEE HOSPITAL, Earl's Court, S.W.—House Surgeon for six months, renewable. Salary at rate of £52 per annum, with board, residence, and laundry.

READING, ROYAL BERKSHIRE HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, and washing.

ROYAL EAR HOSPITAL, Dean-street, Soho.—Honorary Assistant Anæsthetist.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £80 per annum, with board, washing, and residence.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Casualty Medical Officer. Salary £50 per annum.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Carmarthen, in the county of Carmarthen; at Staveley, in the county of Westmorland; and at Gortin, in the county of Tyrone.

Births, Marriages, and Deaths.

BIRTHS.

GOMEZ.—On Feb. 15th, at The Cottage, South Petherton, Somerset, the wife of F. J. Gomez, M.R.C.S., L.R.C.P., of a son.

HARVEY.—On Feb. 17th, at 117a, Queen's-gate, S.W., the wife of Sidney Harvey, of a son.

KNAPP.—On Feb. 13th, at Garth, Broxbourne, Herts, the wife of Captain H. G. Knapp, I.M.S., of twins—son and daughter.

DEATH.

TOMLINSON.—On Feb. 17th, at 8, Earl's-avenue, Folkestone, Lieut.-Col. Edward Denham Tomlinson, M.D., late of the R.A.M.C. and York and Lancashire Regiment, in his 69th year.

Notes, Short Comments, and Answers to Correspondents.

THE STERILISATION AND PRESERVATION OF FOODS BY CARBONIC ACID GAS.

IT seems odd that although over 50 years ago it was recognised that carbonic acid gas possessed decided antiseptic properties no serious attempt has been made to utilise this gas for the practical purpose of preserving milk or other foods. There are obvious objections to the use of certain chemical agents for preserving purposes, but to carbonic acid gas these objections in the main do not apply. Carbonic acid gas may, of course, be easily expelled if need be from the preserved food prior to consumption, while it could do the organism no harm if swallowed with the food. Soda-water or water under pressure of carbonic acid gas is not poisonous nor does it have any decided physiological effect comparable with that produced by boric acid, salicylic acid, benzole acid, fluorides, or formaldehyde. The gas, however, can only be successfully employed for preserving purposes after every particle of air in the food has been displaced. This is the claim made by Mr. H. J. Randolph Hemming of Kent Cottage, Hither-green, S.E., who has designed a special aerating machine which places milk and other foods under a pressure of carbonic acid gas in such an effectual way as to exclude air altogether. The result in the case of milk is, according to our observation, to preserve the fluid effectually. We have, at any rate, examined samples of milk so treated which had been left in bottle for six weeks. At the end of that time the milk showed no signs of decomposition and the fluid was perfectly uniform, no separation of curd having taken place. The taste was sweet and good and indistinguishable from that of fresh milk. Even oysters may be preserved in this way and saccharine fluids and beef-juices keep well under a pressure of pure carbonic acid gas. The process has the undoubted advantage that the article of food to be preserved is never in contact with metal fittings—the aeration is, in fact, effected in the bottle. In this way the method of aeration differs entirely from that generally adopted in the preparation of aerated waters, in which the gas and water are brought intimately together in a carbonator and then bottled off. Again, the ordinary method of aeration can hardly be adapted to the requirements of the preserving process since it is essential to get rid entirely of the air. The method promises to open a new departure in the preservation of foods and to provide a satisfactory solution of the problem how to keep perishable foods intact without the aid of injurious chemical substances or heat. The method does not appear to effect any such undesirable chemical or physical change in the food product as undoubtedly takes place when sterilisation by heat is employed.

THE REJECTION OF A FELLOW PRACTITIONER'S OPINION.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to your remarks under the above heading. In justice to myself permit me to contradict the statement that I admitted declining to follow Mr. H. W. Joyce's suggestions as to treatment. The facts, as I stated at the inquest, are as follows. The woman developed unfavourable symptoms on the fifth day. Mr. H. W. Joyce was called in by the husband late in the evening to find that the case was under my care. Next morning I met him and every detail of the course of treatment we decided on together was carried out. The only point on which I did not take his advice was that of notification to the medical officer of health. This, of course, has nothing to do with the treatment or subsequent course of the patient's illness. On this, as on all other points in connexion with the case, I consulted my senior officers, both the senior medical officer at the Battersea Maternity and the director of the Clapham Maternity Hospital, who, after her return to town early next morning, had the case under her personal supervision until the removal of the patient to the infirmary.

I am, Sirs, yours faithfully,

CATHERINE CHISHOLM, B.A., M.B., Ch.B. Vict.

Albert Bridge-road, Battersea, Feb. 20th, 1905.

*** We have had an interview with Miss Chisholm and as a consequence are happy to publish her letter. The coroner's jury could not have understood the circumstances and Miss Chisholm's attitude has been misinterpreted. She did not notify the case as one of puerperal fever at once because she had reason to believe that within 24 hours the responsibility of doing so would devolve on her senior officer, but this is totally different from disregarding the recommendations for treatment of a senior fellow practitioner. We are happy to say this, as Miss Chisholm is a junior member of the medical profession and it is particularly hard upon her to receive a public rebuke for self-sufficiency on the threshold of her career.—ED. L.

THE ADMINISTRATION OF ANÆSTHETICS BY DENTISTS.

WE have received a letter asking us if a registered dentist not necessarily holding any save a dental qualification can legally administer anæsthetics. As far as legality goes in the strict sense of the word anyone can administer anæsthetics so long as his purpose is not criminal, but medically speaking a distinction must be drawn between the administration of anæsthetics by a dentist and the same procedure by a qualified medical practitioner. Anæsthetics should only be given by properly qualified medical practitioners. The registered dentist as such is not in a position to conduct the administration of anæsthetics. We all know that nothing is easier than to produce anæsthesia upon a healthy subject in favourable circumstances but nowadays at least we all recognise that the procedure may be a most difficult and dangerous one, one which should not be undertaken by any save a fully qualified medical man who has experience.

AN EXTRAORDINARY PROPORTION OF FEMALE BIRTHS.

To the Editors of THE LANCET.

SIRS,—Of 55 births recorded during last year in Carson City, Nevada, only one was a male. The causes underlying the differences in sex (if, in fact, there are any causes other than chance) are not only matters of great interest but of importance as well. Carson City, where this extraordinary proportion of female births occurred, has in its population a much greater proportion of males than almost any other city in the States, it being a western mining town. Can it be that this is an effort of nature to correct the ratio? If so, has this circumstance been observed elsewhere? I am, Sirs, yours faithfully,

Albany, N.Y., Feb. 9th, 1905. BARRINGTON KING.

EMPIRE LINEN MESH FABRIC.

THIS fabric, formerly known as Kneipp linen mesh, has been improved with respect to its value as a material suitable for underwear. In future, we are informed that the York-street Flax Spinning Company, Limited, of Belfast, which has a London agency at 2, Milk-street, E.C., intends to call the material Empire linen mesh. We have already pointed out the advantages of this interesting material. The Empire linen mesh is a knitted elastic fabric which, while keeping the body warm and comfortable, freely allows of the escape of perspired products. To the individual who has been accustomed to wear wool next to the skin the material at first feels relatively cool but after a time this feeling disappears and a woollen material if subsequently worn feels somewhat heavy and oppressive by contrast. The fabric is exceedingly cleanly in use and a proof of its ventilating property is afforded in the fact that unlike woollen garments it is not stained or destroyed by the perspiration at the armpits.

FLANNELETTE.

To the Editors of THE LANCET.

SIRS,—With respect to Mr. S. Bradbury's interesting letter I may say that having ascertained where "Non-Flam" could be bought retail I wrote for the cheapest which proved to cost 8½d. a yard. I do not suggest that the charge, having regard to quality, is excessive, but this price is prohibitive to the poor; it may be that cheaper varieties than this firm stocks are sold, but if so, where? If flannelette can be satisfactorily and permanently rendered fireproof at the cost of 1d. a yard let the State buy up and abolish the patent rights and then forbid the sale of the inflammable form. I am, Sirs, yours faithfully,

Feb. 17th, 1905. A SURGEON.

THE R. E. D. BROTHERHOOD.

THE Rev. Burnard S. Low, of 8, Springfield-place, Leeds, sends us a letter with the above terrific title. We say terrific, for if ever a title was redolent of bloody anarchy surely it is this. As a matter of fact, the sanguinary confraternity have only entered into a league to prevent boys under 16 years of age from smoking. Believing that it is unwise and wrong to let small boys make rash promises not to smoke until they are 21, the founder of the society has fixed the age at 16 years. In his letter he rightly says: "Boys do not want sermons nor do they need to have harrowing pictures of their internal economy shown to them. We trust the boys themselves to deal with the matter when they see that smoking is bad for them." In the handbook issued by the society it is said: "What we have to do is not to make prigs of the boys but to form a good healthy opinion among the boys themselves." These two quotations clearly indicate the lines upon which the Rev. B. S. Low is working and we wish him every success in his undertaking. The evils of smoking have been so exaggerated that anti-tobacco pronouncements have lost much of their force, their inaccuracy being so obvious. But no boy needs the influences of tobacco and all boys are better without the acquisition of a habit that if indulged in excessively may be very mischievous. The title of the brotherhood is explained by the following motto:

"Be **R**eal in your purpose.
Be an **E**xample to others.
Be **D**etermined to keep your promise."

THE KING AND THE DEVONSHIRE HOSPITAL.

IT will be remembered that a few months ago His Majesty the King visited the Devonshire Hospital, Buxton, and promised to give that institution a new operating table. The commission was intrusted to Messrs. Allen and Hanburys and we have recently had the opportunity of inspecting the finished product. In most points it is the same as the table upon which we commented favourably in our issue of Jan. 14th, being made of phosphor bronze and fitted with detachable foot rests. Three hot-water tins are provided which slide under the portion of the table upon which the patient lies. The top of the table, the head rest, and the foot rests can be

set to any angle by pressing a lever which in the case of the two latter portions actuates a locking bolt. The top of the table is fixed by a rachet and pawl. The table itself has four legs, two of which are provided with wheels about four inches in diameter, while the other two are plain and can be adjusted in height by a kind of levelling screw. When standing on the two plain feet and the two wheeled ones the table is practically immoveable, but when it is desired to move it the two plain feet can be lifted off the floor and a single leg provided with a wheel brought into action. The table then standing on three legs can be easily moved. Altogether it is a well-devised piece of apparatus.

AN IMPROVED HAMMOCK FOR INVALID RAILWAY TRAVELLERS.

THE means at present adopted by railway companies for the conveyance of their invalid passengers are greatly in need of improvement and we welcome any attempt which has for its object the comfort and convenience of the sick or infirm traveller. On Feb. 17th Miss M. C. Horne exhibited at the terminus of the Great Central Railway an improved form of hammock which, so far as a stationary carriage allowed it to be tested, would seem to possess certain advantages. The improvements in the hammock, which otherwise differs but little from the ordinary canvas form, consist chiefly in (1) a bolster affixed transversely midway between the head and the foot of the hammock; and in (2) flaps running along either side of the hammock for the purpose o more conveniently covering the occupant and as a means of holding hot-water bottles. In use the hammock is first affixed by means of a brass attachment to one side of a carriage between the door and the window, the canvas being allowed to lie along the seat of the carriage. The invalid is then assisted to the hammock, the bolster serving the purpose of a seat and preventing the patient from slipping out of position. The foot of the hammock is then raised and fixed in position at the opposite side of the carriage. Across the under side of the hammock and parallel with the bolster is a strap which is attached to both sides of the carriage, its object being to prevent lateral movement. It is said that beyond a slight rocking movement in the direction of the length of the body but little vibration is felt by the patient, but we cannot speak from personal experience of actual travelling. It has been suggested by one railway company that the cost of the appliance would work out at four third-class fares, plus 2*s.* 6*d.* for the loan of the hammock. This would be a moderate charge and would enable many invalids to take advantage of the railway as a means of transit who cannot do so now on account of prohibitive fares. Should the new hammock prove on more thorough trial to possess the advantages claimed for it, including, of course, cheapness, one obvious use to which it might be put would be to send hospital patients to convalescent homes sooner than it is possible to do now and thus to set free many beds.

PRESCRIBING AT RANDOM.

To the Editors of THE LANCET.

SIRS,—My attention has been called to a paragraph in your valuable paper wherein you comment somewhat adversely upon the action of the Potters' Insurance Co., Limited, who recently issued to all the certifying surgeons a circular letter calling their attention to two samples of mouth wash specially prepared for the use of workers in lead processes. As the original maker of the first of these mouth washes—which I gave the name "Fo-Mo" to—permit me to say that in order to prevent what you designate as "random prescribing" I shall be delighted to send the formula to any member of the profession on receipt of card. I may say that "Fo-Mo" contains none of the ingredients mentioned in your paragraph and that, with the exception of 2 per cent. acid. carbolic., it is *purely vegetable*, as stated on my label. While admitting the capability of a medical man to prescribe suitable mouth washes I would point out the *in*ability for any chemist to make up the prescriptions at the price we sell "Fo-Mo," and as working men are to use it the price must be within their reach. The gentleman who has so strongly recommended it to the notice of his colleagues was fully aware of the constituents of the preparation and I can only marvel at the lack of confidence in his recommend.

I am, Sirs, yours faithfully,
GEO. SWINNERTON, M.P.S.

Stafford street, Longton, Feb. 17th, 1905.

*** We may point out to Mr. Swinnerton that we did not mention the names of the washes. We said that according to our analysis the one contained wintergreen, boric acid, and other ingredients. We continued: "In the other carbolic acid appeared to be the chief constituent." "The other" was Fo-Mo.—ED. L.

MALADVERTISEMENT.

WE have received from the Managing Director of the Capsuloid Company, Limited, a protest in respect of a paragraph published on Jan. 21st under this heading. The managing director says that it is quite untrue that his company has made use of our notice of their wares "to publish or at any rate to hint that THE LANCET has recommended capsuloids for falling out and prematurely grey hair." Our opinion to the contrary was founded on the fact that we have received communications at this office asking, in view of the advertisements of the Capsuloid Company, Limited, whether capsuloids are good for baldness. The error into which the public has fallen has been brought about by the wording of the advertisements and this we now learn from the managing director the company "have not the slightest hesitation in changing."

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to acknowledge the receipt of the following additional contributions?—Amount previously acknowledged, £38 15*s.*; Dr. W. M. Harman, £1 1*s.*; and Mr. Edward L. N. Hopkins, 10*s.* 6*d.*

I am, Sirs, yours faithfully,
ALEXR. P. FIDDIAN, Treasurer.

23, The Walk, Cardiff, Feb. 21st, 1905.

T. B.—Our correspondent is strongly advised not to take the course that he proposes. The amount of carelessness displayed must be a matter of question and we have not heard the version of the locum-tenent, but if the principal makes himself the accuser he will run serious risks. Moreover, in our opinion, whatever he may feel it his duty as principal to say to the locum-tenent he is not justified in exciting public prejudice against him.

T. L.—Our correspondent's question is too vague to answer definitely. As a rule in examining for the thermal death-point of microbes the culture of the organism to be tested is examined at temperatures of between 50° and 65° C., the organism being exposed to such temperatures for a period of ten minutes. Spores, of course, are more resistant than is the organism itself.

Tic.—It seems to us that the matter is one for mutual arrangement. No agreement between principal and assistant would be likely to take such a contingency into consideration so that no definite rule exists on the matter. Our feeling is in favour of the principal receiving the money and defraying the assistant's expenses.

M.R.C.S., L.R.C.P.—1. Our correspondent would not be justified in allowing a layman to treat patients by means unknown to himself; if the means are unknown there can obviously be no medical supervision. 2. Certain details of medical treatment can be, and often are, carried out by laymen under medical supervision.

Poupart.—We agree with our correspondent's views, but it would be a mistake not to recognise the arguments in favour of having the post-mortem examinations occasionally performed by an outsider. We have already noticed the situation.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (27th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Casual Communications:—Mr. S. P. Mummery: A Reliable Method of Bleaching Teeth.—Mr. F. Morley: A Case of Gangrene of the Lung following Tooth Extraction. Paper:—Mr. A. Hopewell Smith: Some Rare Anomalies of the Teeth (illustrated by slides and microscopic preparations).

MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Papers:—Dr. A. H. N. Lewers: An Analysis of 300 Consecutive Gynæcological Laparotomies.—Dr. W. J. Gow: Some Remarks on Cæsarean Section.

TUESDAY (28th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Discussion on the Subsequent Course and Later History of Cases of Appendicitis after Operation (opened by Sir Frederick Treves). Sir William Broadbent, Mr. C. Symonds, Sir Lauder Brunton, Mr. P. Gould, Sir William Bennett, and others will take part in the discussion.

WEDNESDAY (1st).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. Giles and Dr. H. Williamson. Short Communications:—Surgeon-Captain J. C. H. Leicester: A Case of Chyluria with Pregnancy.—Dr. A. H. N. Lewers: A Case of Pregnancy in a Rudimentary Uterine Cornu. The President (Dr. W. R. Dakin): The Present Teaching of Practical Midwifery in England (Inaugural Address).

THURSDAY (2nd).—CHILDHOOD SOCIETY AND THE BRITISH CHILD-STUDY ASSOCIATION (Parkes Museum, Margaret-street, W.).—8 P.M. Lecture:—Dr. F. Warner: Mental Faculty of the Child, its Growth and Culture. (Arranged by the Childhood Society.)

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 P.M. Paper:—Mr. A. De Prendergville: Anæsthetic Difficulties and how to Combat Them.

RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.15 P.M. Discussion on the Necessity of Accurate Measurement in X-ray and High Frequency Work (opened by Dr. W. D. Butcher).

FRIDAY (3rd).—SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. Flux: A Fatality associated with Ethyl Chloride. General Discussion on Ethyl Chloride (opened by Dr. McCardie).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. S. E. Dore: Clinique. (Skin.) 5.15 P.M. Dr. H. Tilley: Chronic Abscess of the Maxillary Antrum, its Causes, Diagnosis, and Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Practical Surgery.

TUESDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. Campbell: Clinique. (Medical.) 5.15 P.M. Mr. P. Paton: Infective Diseases of Joints.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. R. Jones: The Question of Responsibility and Moral Insanity.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. R. Russell: Syringomyelia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—3.30 P.M. Demonstration:—Dr. H. Corner: General Paralysis of the Insane at Colney Hatch Asylum, New Southgate, N.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—5 P.M. Prof. K. Pearson: Some Recent Biometric Studies.

WEDNESDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. C. Ryall: Clinique. (Surgical.) 5.15 P.M. Dr. L. Williams: Dyspepsia and its Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration: Dr. Abercrombie: Nose.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—3 P.M. Dr. Wethered: The Treatment of Chronic Cardiac Affections.

THURSDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Mr. E. Clarke: Ocular Headache, its Causes, Diagnosis, and Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Galloway: Demonstration of Dermatological Cases. (Post-Graduate Course.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Lecture: Dr. T. D. Lister: Bronchial Affections of Children. I. Primary. (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Dr. Roberts: Cases from the Wards.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Lecture:—Dr. Penrose: Cardiac Disease in Children.

FRIDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. Clarke: Clinique. (Eye.)

POST-GRADUATE COLLEGE (Hanwell Asylum).—3 P.M. Insanity at the Epochs of Life.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. R. Russell: Cerebellar Disease.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—9 P.M. Chevalier G. Marconi: Recent Advances in Wireless Telegraphy.

EDITORIAL NOTICES.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1904 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 23rd, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
Feb. 17	30·06	S.W.	...	82	53	48	47	49	Overcast
,, 18	30·21	W.	...	82	52	39	41	42	Fine
,, 19	29·90	N.W.	...	58	51	40	38	40	Fine
,, 20	29·97	N.	0·05	67	41	33	31	34	Fine
,, 21	30·33	N.E.	0·18	70	45	34	37	39	Fine
,, 22	30·34	E.	...	74	44	35	35	37	Cloudy
,, 23	30·13	N.E.	0·01	39	39	36	36	37	Overcast

During the week marked copies of the following newspapers have been received:—*Guernsey Advertiser and Weekly Chronicle, Westminster Gazette, Engineer, Welsh Coast Pioneer, Richmond Herald, Glasgow Herald, Freeman's Journal, The Scotsman, Highland News, Evening News, Morning Leader, Manchester Courier, Sussex Daily News, Dublin Times, Birmingham Post, Notts Guardian, Dublin Express, Bradford Observer, Hereford Mercury, Sanitary Record, Local Government Chronicle, Mining Journal, Bath Weekly Argus, Glasgow Evening Times, Surrey Advertiser, &c.*

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